SRS-RF90R/RF90RK/ TMR-RF90

SERVICE MANUAL

US Model
Canadian Model

Ver 1.0 2002. 02

SRS-RF90R TMR-RF90

• SRS-RF90RK is composed of following models.

COMPONENT MODEL NAME

	SRS-RF90RK
Wireless Active Speaker	SRS-RF90R
RF Transmitter	TMR-RF90

• SRS-RF90R is sold as single model too.

SPECIFICATIONS

General

Carrier frequency	913.5 – 914.5 MHz
Channel	Ch1, Ch2, Ch3
Modulation	FM stereo

Transmitter (SRS-RF90RK only)

Power source	DC 9 V: supplied AC power adaptor (AC-S901)
Audio input	phono jacks/stereo mini jack
Input impedance	33 kΩ/51 Ω switchable
Dimensions	Approx. 136 × 136 × 100 mm ($6 \times 6 \times 4\ ^1/_3$ in.) (w/h/d)
Mass	Approx. 146 g (5.2 oz.)

Speaker system SRS-RF90RK, SRS-RF90R

Speaker system	2 way magnetically shielded
Enclosure type	Bass reflex
Speaker units	tweeter: 30 mm × 2 woofer: 57 mm × 1
Power source	DC 9 V: supplied AC adaptor (AC-S906T)
Rated output	Built in amplifiers total 4W (while using the supplied AC adaptor) * power output: Tweeter: 0.25W + 0.25W < 10% T.H.D., 5 kHz 24 ohms Woofer: 3.5W < 10% T.H.D., 1kHz 6 ohms
Dimensions	Approx. 234 × 300 × 126 mm ($9\ ^1/_4 \times 11\ ^7/_8 \times 5$ in.) (w/h/d)
Mass	Approx. 905 g (31.9 oz.) incl. built-in rechargeable battery

Built-in Ni-Cd rechargeable battery

Voltage	7.2 V
Capacity	700 mAh
Duration time	Approx. 4 hours (with the 10 mW reflector light OFF)
Charging time	Approx. 28 hours (from fully discharged to fully charged)

Supplied accessory

The transmitter (SRS-RF90RK only)
AC adaptor (2 for SRS-RF90RK) (1 for SRS-RF90R)
Connecting cord phono plug-stereo miniplug (1m) (1)
Operating instructions (1)

Design and specifications are subject to change without notice.

WIRELESS STEREO SPEAKER SYSTEM

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2002B1600-1
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Sony Corporation
Personal Audio Company
Published by Sony Engineering Corporation

SONY®

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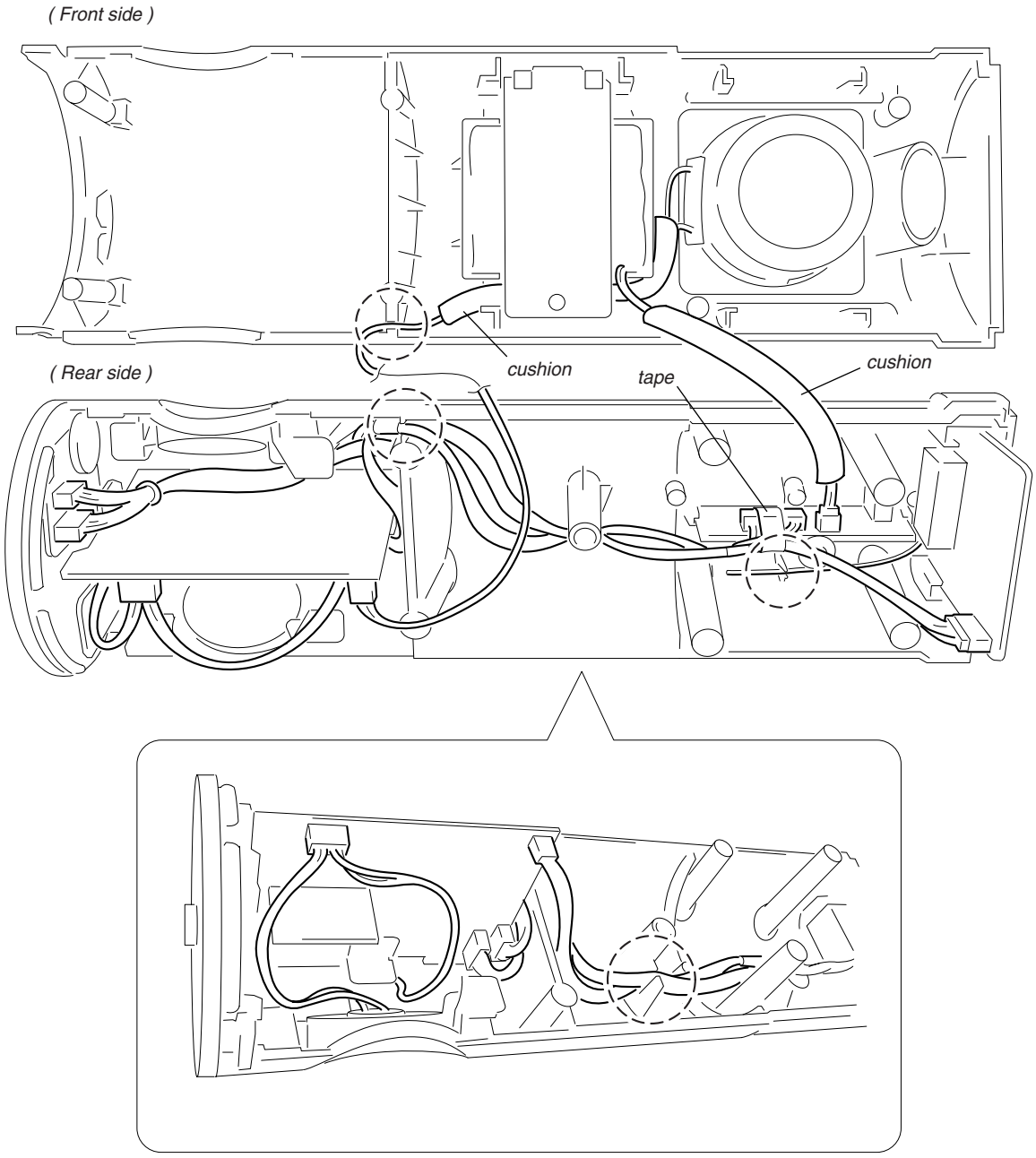
SERVICING NOTE

Leading about of wiring



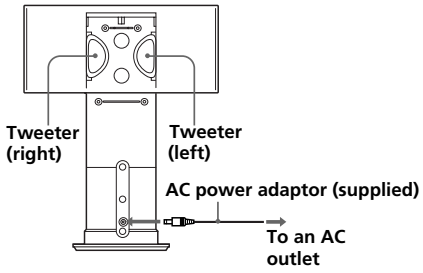
Note : In the place of a ( ) mark, as shown in figure, the wires are taken about.

SECTION 1
GENERAL

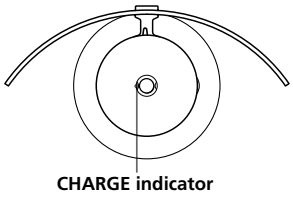
This section is extracted from instruction manual.

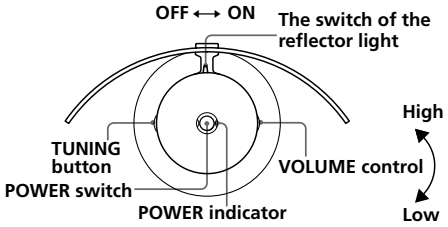
SRS-RF90R

1 Connect the speaker system to a power source.



2 The CHARGE indicator on the speaker system will light up to indicate that the battery is being charged.

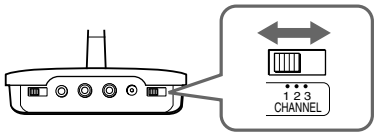




1 First turn on the audio/video equipment and start playing.
The power indicator of the transmitter will light up.

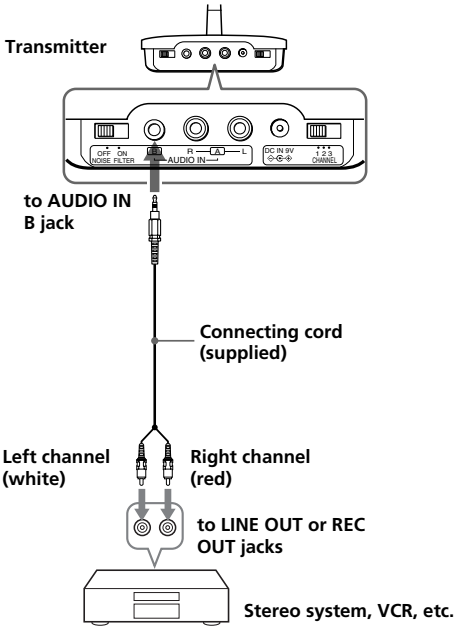
2 Turn on the speaker system.
The power indicator of the speaker system will light in red.

3 Select the radio frequency with the CHANNEL selector.

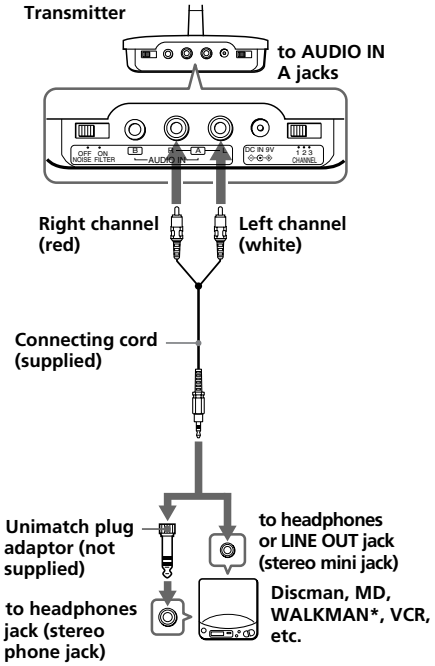


TMR-RF90

Ⓐ To connect to a LINE OUT or REC OUT

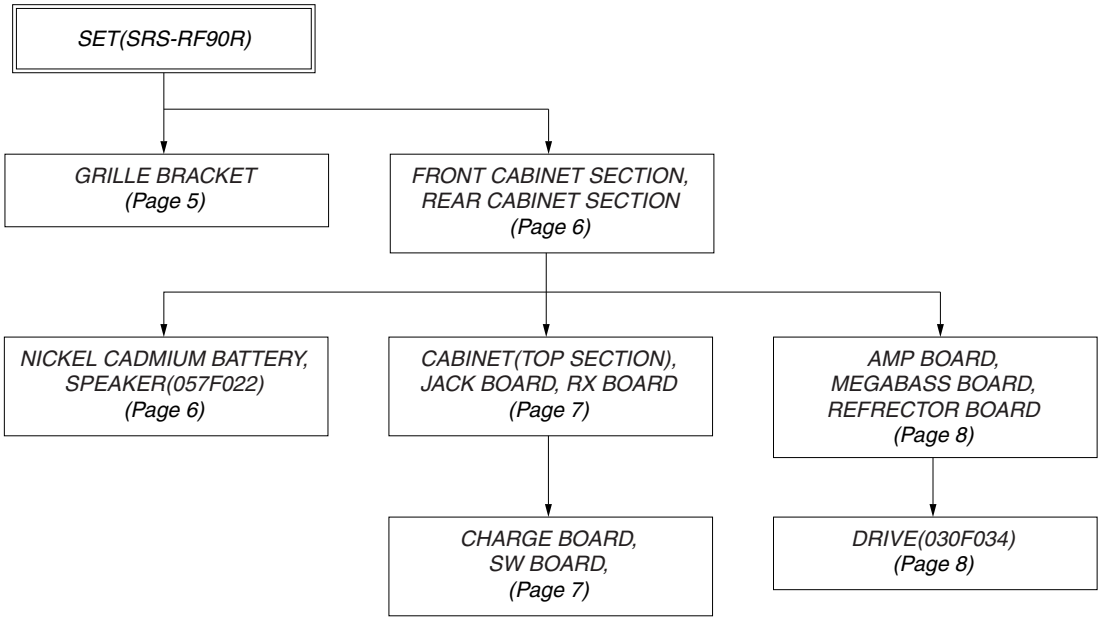


Ⓑ To connect to headphones jack


Transmitter
to AUDIO IN A jacks
Right channel (red)
Left channel (white)
Connecting cord (supplied)
Unimatch plug adaptor (not supplied)
to headphones or LINE OUT jack (stereo mini jack)
to headphones jack (stereo phone jack)
Discman, MD, WALKMAN*, VCR, etc.

SECTION 2
DISASSEMBLY

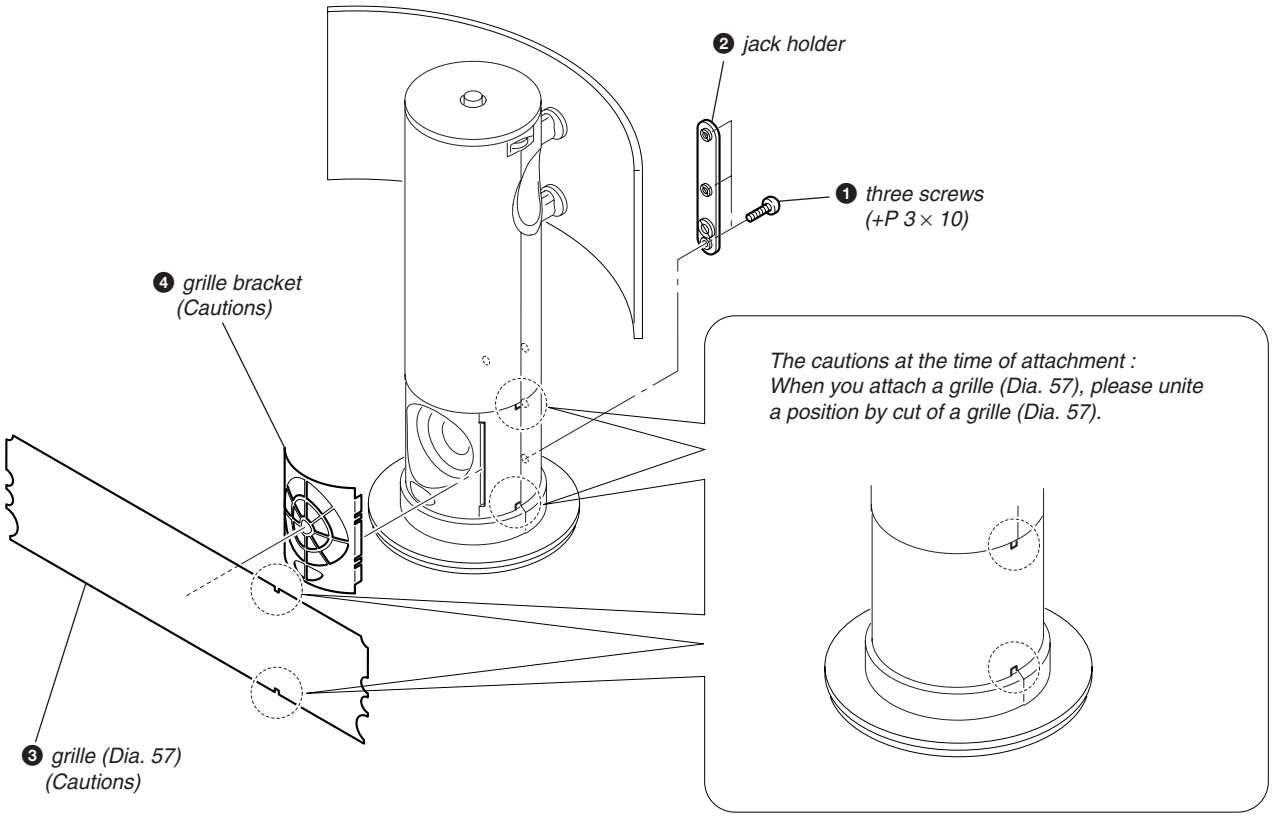
Note : Disassemble the unit in the order as shown below.


SET(SRS-RF90R)
GRILLE BRACKET (Page 5)
FRONT CABINET SECTION, REAR CABINET SECTION (Page 6)
NICKEL CADMIUM BATTERY, SPEAKER(057F022) (Page 6)
CABINET(TOP SECTION), JACK BOARD, RX BOARD (Page 7)
AMP BOARD, MEGABASS BOARD, REFRECTOR BOARD (Page 8)
CHARGE BOARD, SW BOARD, (Page 7)
DRIVE(030F034) (Page 8)

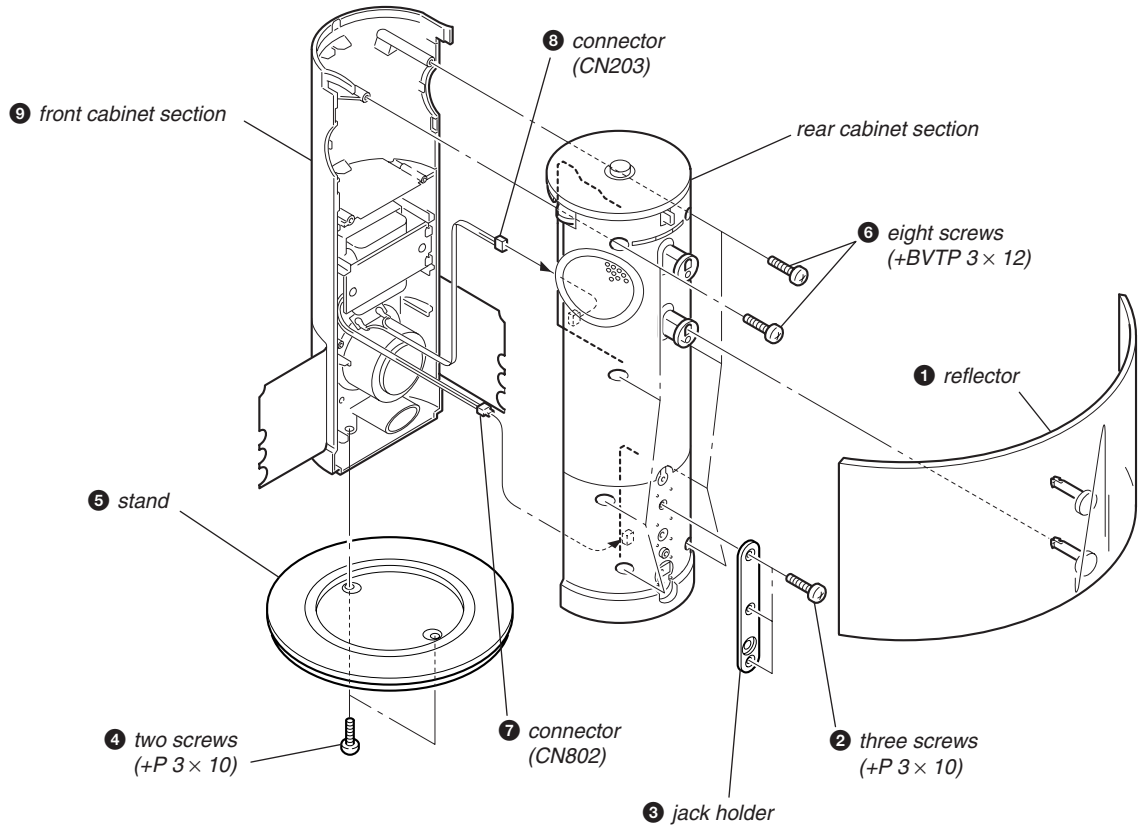
Note : This set can be disassembled in the order shown below.

2-1. Grille Bracket

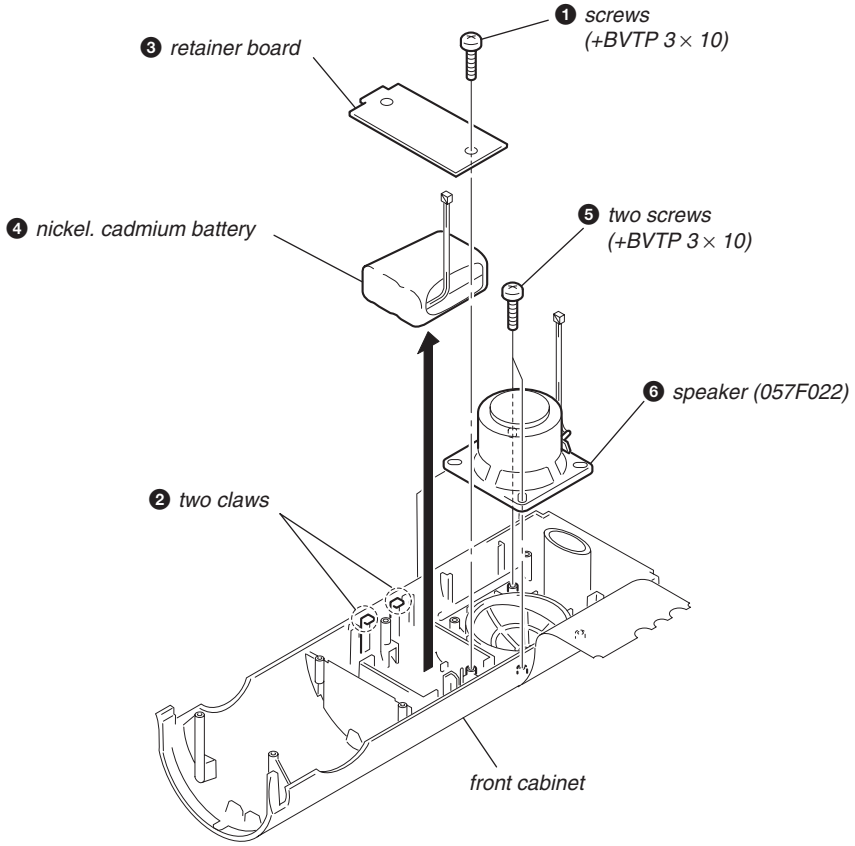
(Cautions)
Please also exchange grille (Dia. 57) together at a Grille bracket.
(A grille (Dia. 57) is unreproducible.)


❷ jack holder
❶ three screws (+P 3× 10)
❹ grille bracket (Cautions)
❸ grille (Dia. 57) (Cautions)
The cautions at the time of attachment :
When you attach a grille (Dia. 57), please unite a position by cut of a grille (Dia. 57).

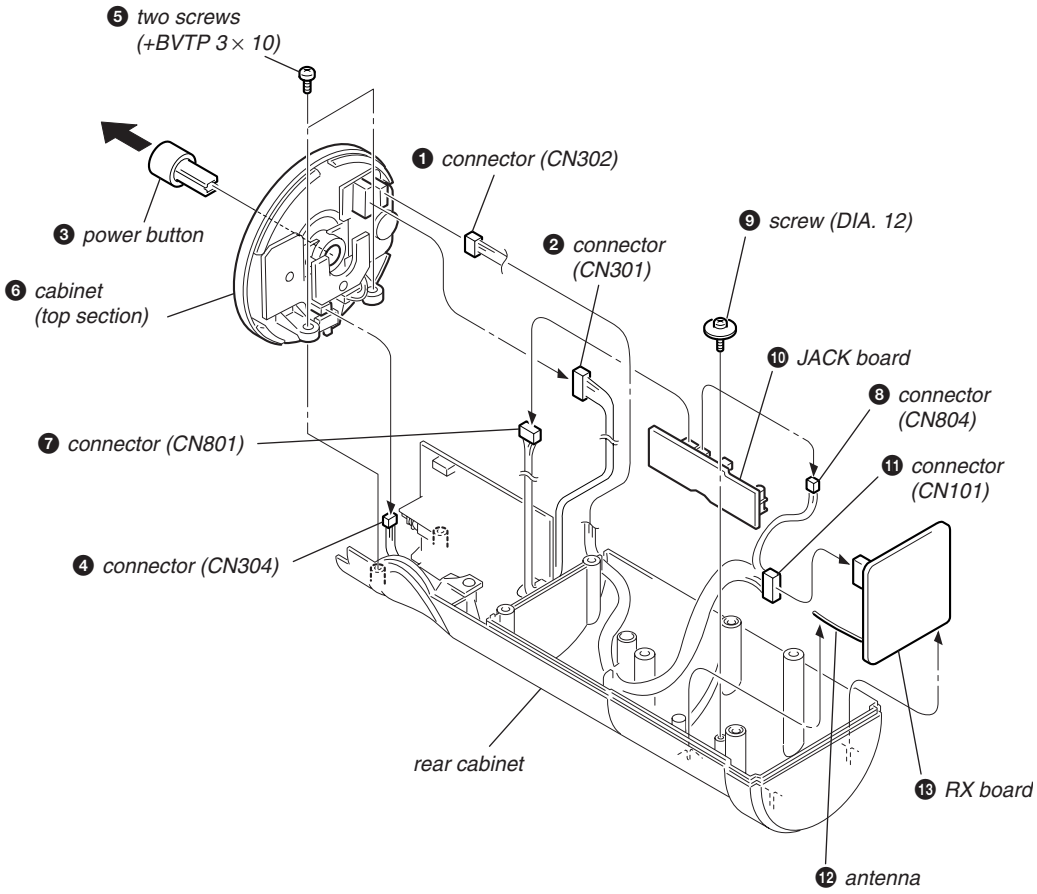
2-2. Front Cabinet Section, Rear Cabinet Section



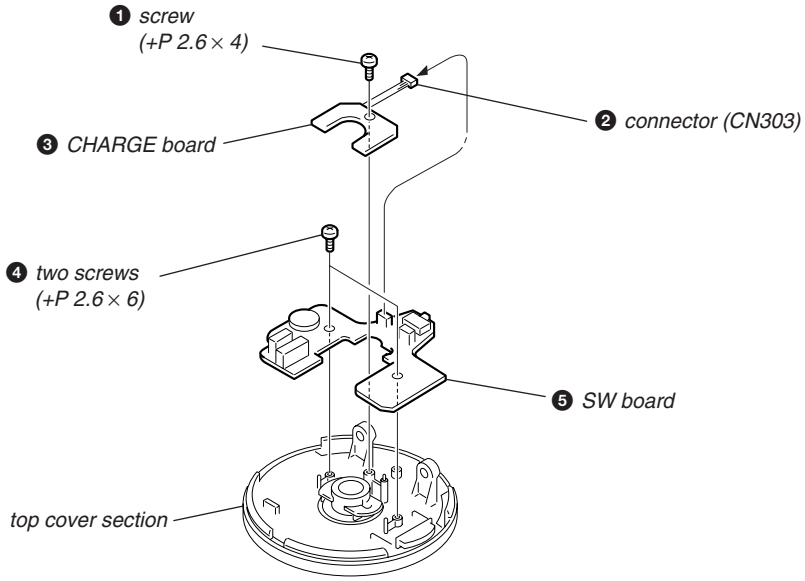
2-3. Nickel Cadmium Battery, Speaker (057F022)



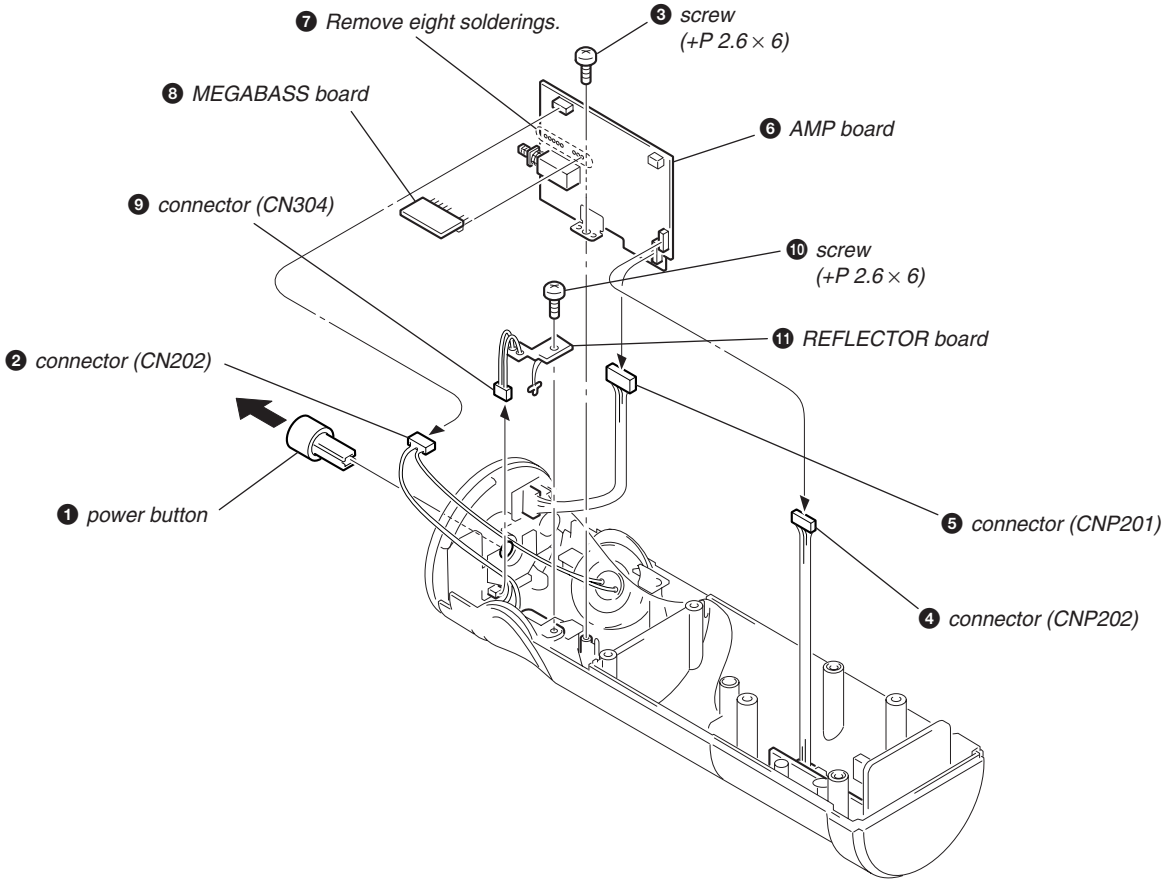
2-4. Cabinet (Top Section), JACK board, RX board



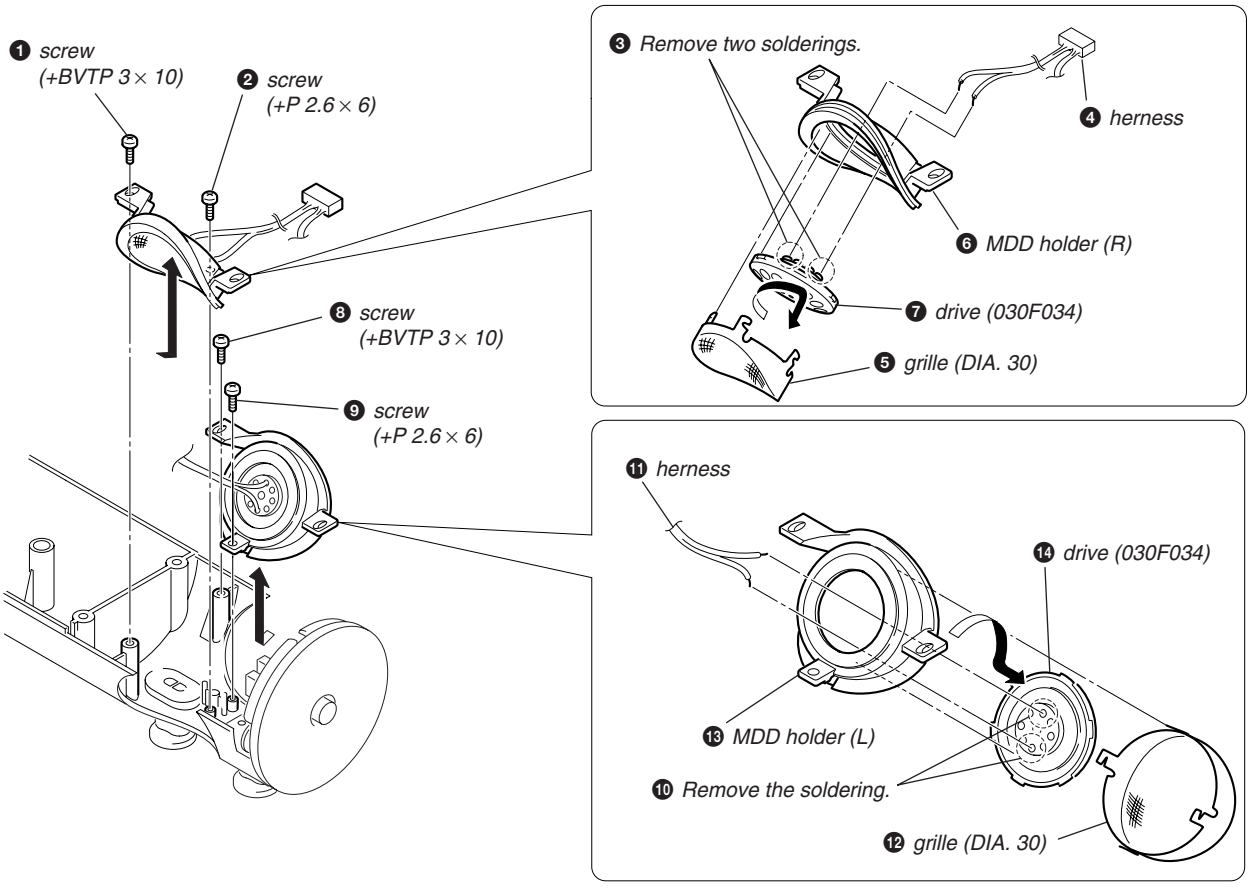
2-5. CHARGE board, SW board



2-6. AMP board, MEGABASS board, REFLECTOR board



2-7. Drive (030F034)

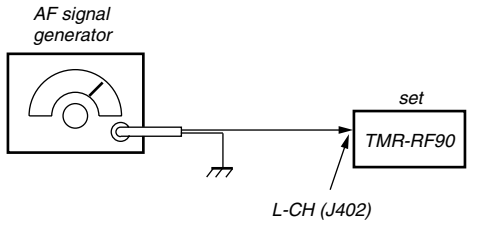

❶ screw (+BVTP 3 × 10)
❷ screw (+P 2.6 × 6)
❸ Remove two solderings.
❹ herness
❻ MDD holder (R)
❼ drive (030F034)
❺ grille (DIA. 30)
❽ screw (+BVTP 3 × 10)
❾ screw (+P 2.6 × 6)
⓫ herness
⓮ drive (030F034)
⓭ MDD holder (L)
❿ Remove the soldering.
⓬ grille (DIA. 30)

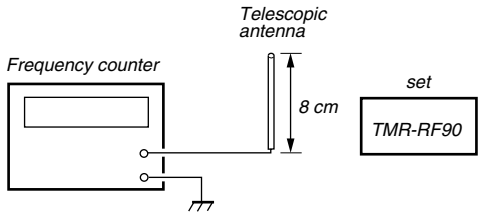
When you remove a Cautions : (R) side, please start with ❶, when you remove the (L) side, please start with ❽.

SECTION 3
ELECTRICAL ADJUSTMENTS

TMR-RF90

Setting :





Transmission Frequency Check and Adjustment

1. Set the NOISE FILTER switch to off.
2. Input a signal of 1 kHz 40 mVrms to only the L-CH (J402).
3. Connect a telescopic antenna to the frequency counter input and extend the antenna to a length of approximately 8 cm.
4. Place TX board close to the frequency counter, then measure the frequencies of CH1, CH2 and CH3 and make sure the values are as follows:

   CH1 : 913.5 MHz ± 200 kHz
   CH2 : 914.0 MHz ± 200 kHz
   CH3 : 914.5 MHz ± 200 kHz

   When the frequency is not satisfied the specified value, set the CHANNEL switch (S402) to CH2, then adjust the value of the frequency counter to 914.0 MHz by trimmer capacitor in the VCO unit.

   Standard value :913.9MHz to 914.1MHz

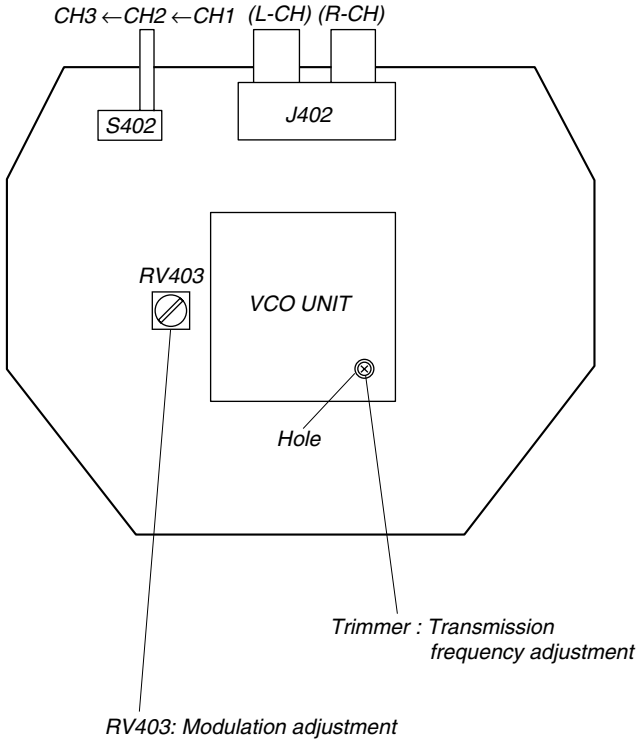
   When completed with replacement, recheck the frequencies of CH1, CH2 and CH3.

Modulation Check and Adjustment

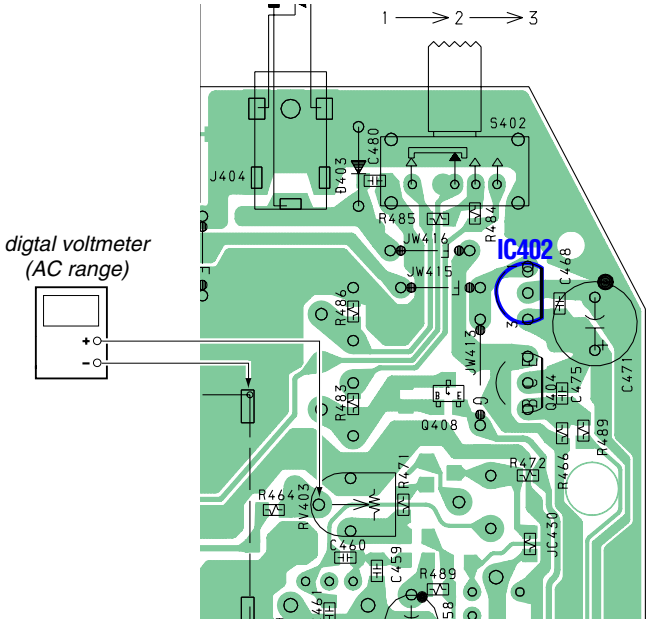
1. Set the channel to CH2.
2. An electric wave is output for 5or 10 minutes when off to on a power supply (Power indicator will on).
3. Measure the center terminal of RV403 using an digital volt-meter (AC range) and make sure the value is 2 to 2.5mVrms.
   If the measured value is other than the specified value, adjust to 2 to 2.5mVrms by turning the RV403 on the TX board.

Connection points and Adjustment Location :

【TX BOARD】 (Component side)



【TX BOARD】 (Conductor side)



SRS-RF90R

Notes:

1. Use transmitter with check and adjustment already completed.
2. On adjusting the speaker section, use the transmitter as a jig.
   Wireless Active Speaker : SRS-RF90R
   Transmitter : TMR-RF90

Procedure:

1. Connect an oscillator with attenuator and terminator (600 Ω) to the transmitter AUDIO IN-A connector (J402).
2. Connect an AC adapter to the transmitter DC IN 9V jack (J404).
3. Short between Q101 corrector and GND on the RX board.
4. Connect an AC adapter to the speaker DC IN 9V jack (J801).
5. Connect lead wires to IC101 pin 4, pin 6, pin 7 and GND on the RX board.
6. Connect a resistor 33k Ω between IC101 pin 4 and pin 7.
7. Connect lead wires to the speakers' terminals (L+,L-,R+,R-) on the AMP board.

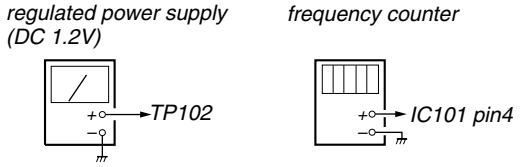
Free Run Frequency Check and Adjustment

1. Set the transmitter AUDIO IN-A connector (J402) to no signal.

Note: In this case, operation time is about 5 or 10 minutes. Perform confirmation for less than 5 minutes.

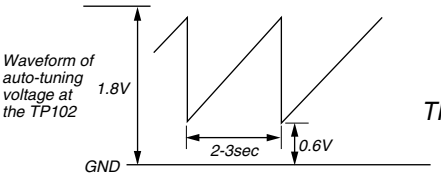
2. Check the transmitter power indicator D401 (red) lights.
3. Set the transmitter CHANNEL switch to 1.
4. Connect DC 1.2V across TP102 and GND on the RX board.
5. Connect a frequency counter to IC101 pin 4 and GND on the RX board, then confirm the frequency within 76kHz ± 50Hz
6. When the frequency dose not satisfy the specified value, adjust the value of the frequency counter to specification by RV101 on the RX board.
   Specified values: 76kHz ± 50Hz.
7. Remove a 33 kΩ resister between IC101 pin 4 and pin 7.

Setting :

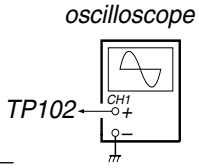


Receiving Frequency Check and Adjustment

1. Set the transmitter CHANNEL switch to 2.
2. Set the transmitter NOISE FILTER switch to off.
3. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A(L-ch) connector only.
4. Keep distance between transmitter and speaker to 5 meters over.
5. Set the speaker volume (RV301) to minimum.
6. Connect DC1.2V across TP102 and GND.
7. Connect an oscilloscope CH1 and CH2 to IC101 pin 6 and pin 4.
8. Check the waveform of the oscilloscope to CH1 is demodulated 1kHz signal and CH2 is GND.
9. If CH1 and CH2 are not satisfied in step 8, adjust the coil (L101) on the RX board to satisfied step 8.
10. Disconnect DC1.2V across TP102 and GND.
11. Open between Q101 corrector and GND on the RX board.
12. Switch the transmitter off and push the TUNE switch (S301). Check the waveform of the oscilloscope at the TP102 as follows:

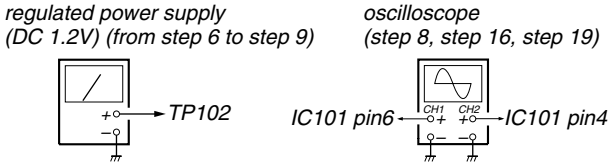


Setting :



13. Switch on the transmitter again.
14. Set the transmitter CHANNEL switch to 1.
15. Push the TUNE switch (S301) to receive radio frequency.
16. Check same step 8.
17. Set the transmitter CHANNEL switch to 3.
18. Push the TUNE switch (S301) to receive radio frequency.
19. Check same step 8.

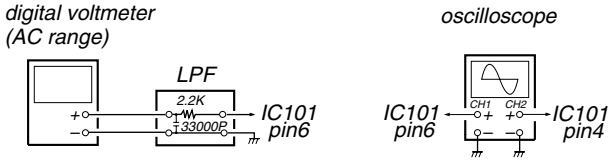
Setting :



Carrier Modulation Check

1. Set the transmitter CHANNEL switch to 2.
2. Set the transmitter NOISE FILTER switch to off.
3. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A (L-ch) connector only.
4. Set the speaker volume (RV301) to minimum.
5. Connect an oscilloscope CH1 and CH2 to IC101 pin 6 and pin 4.
6. Push the TUNE switch (S301) to receive radio frequency.
7. Check the waveform of the oscilloscope that the CH1 is demodulated 1kHz signal and CH2 is GND.
8. Connect an AC voltmeter with LPF to IC101 pin 6 and GND.
9. Check the value of the AC voltmeter to 26mVrms ± 2mV

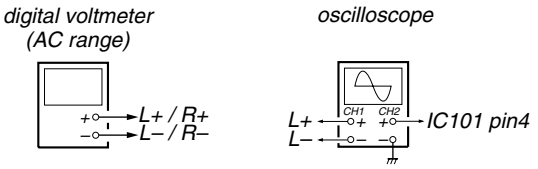
Setting :



Separation Check

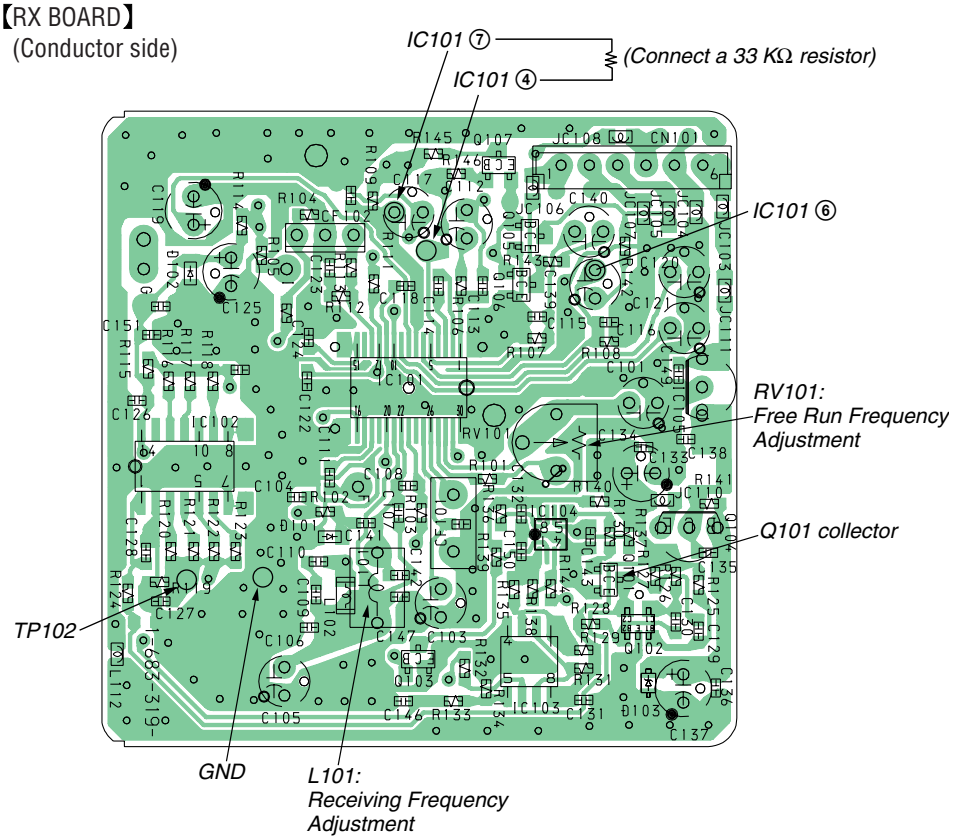
1. Set the transmitter CHANNEL switch to 2.
2. Set the transmitter NOISE FILTER switch to off.
3. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A (L-ch) connector only.
4. Connect an oscilloscope CH1 to speakers terminal (L+,L-) and CH2 to IC101 pin 4 and GND.
5. Push the TUNE switch (S301) to receive radio frequency.
6. Check the waveform of the oscilloscope that the CH1 is demodulated 1kHz signal and CH2 is GND.
7. Connect an AC voltmeter with LPF to speakers terminal (L+,L-).
8. Adjust the value of the AC voltmeter to specification by speaker volume RV301.
   Specified values: 155mVrms
9. Connect an AC voltmeter with LPF to speakers terminal (R+,R-).
10. Measure the value of the AC voltmeter.
11. Check the difference of the L and R to more than 20dB.
12. Input a signal of 1kHz, 316mVrms to transmitter AUDIO IN-A (R-ch) connector only.
13. Connect an AC voltmeter with LPF to speakers terminal (R+,R-).
14. Adjust the value of the AC voltmeter to specification by speaker volume RV301.
    Specified values: 155mVrms
15. Connect an AC voltmeter with LPF to speakers terminal (L+,L-).
16. Measure the value of the AC voltmeter.

17. Check the difference of the L and R to more than 20 dB.



Asjustment Location :

【RX BOARD】
(Conductor side)



SECTION 4
DIAGRAMS

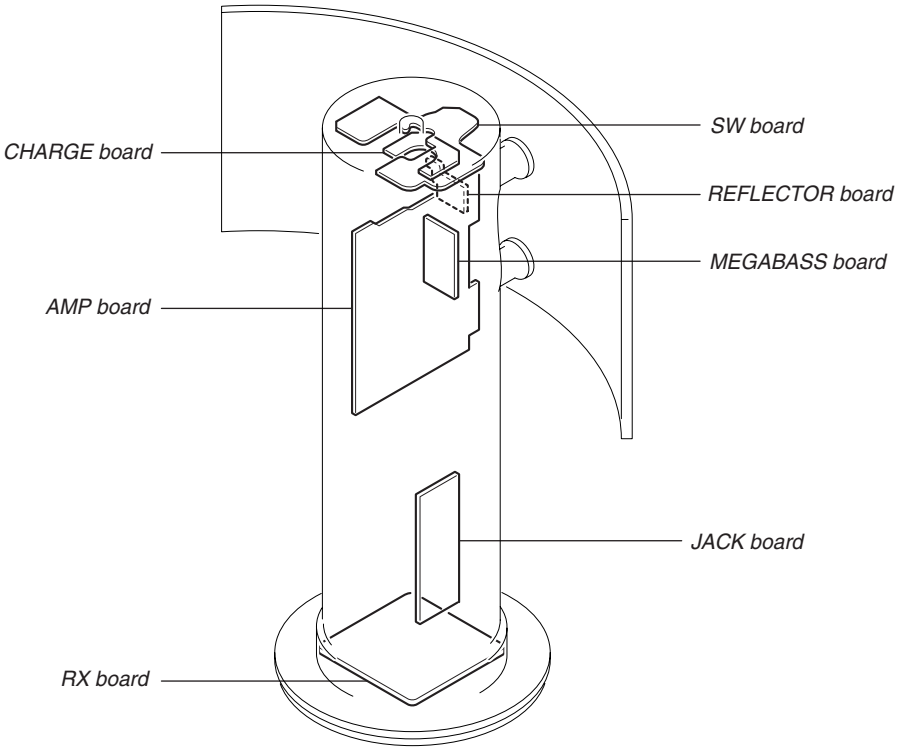
Note on Printed Wiring Boards:

- ○——— : parts extracted from the component side.
- ▒▒▒▒ : Pattern from the side which enables seeing.

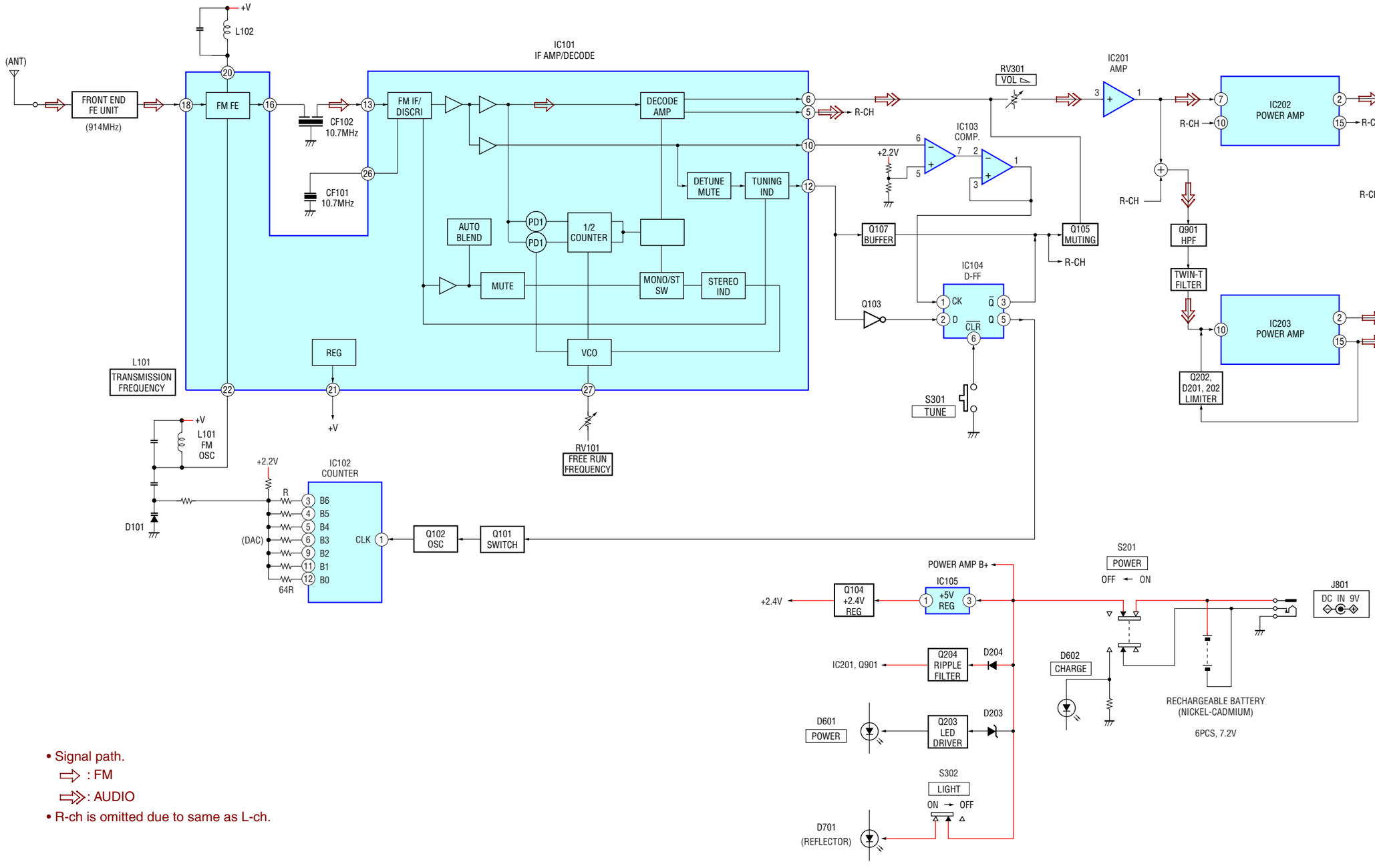
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- ▬ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltages is dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : AUDIO

• CIRCUIT BOARDS LOCATION (SRS-RF90R)



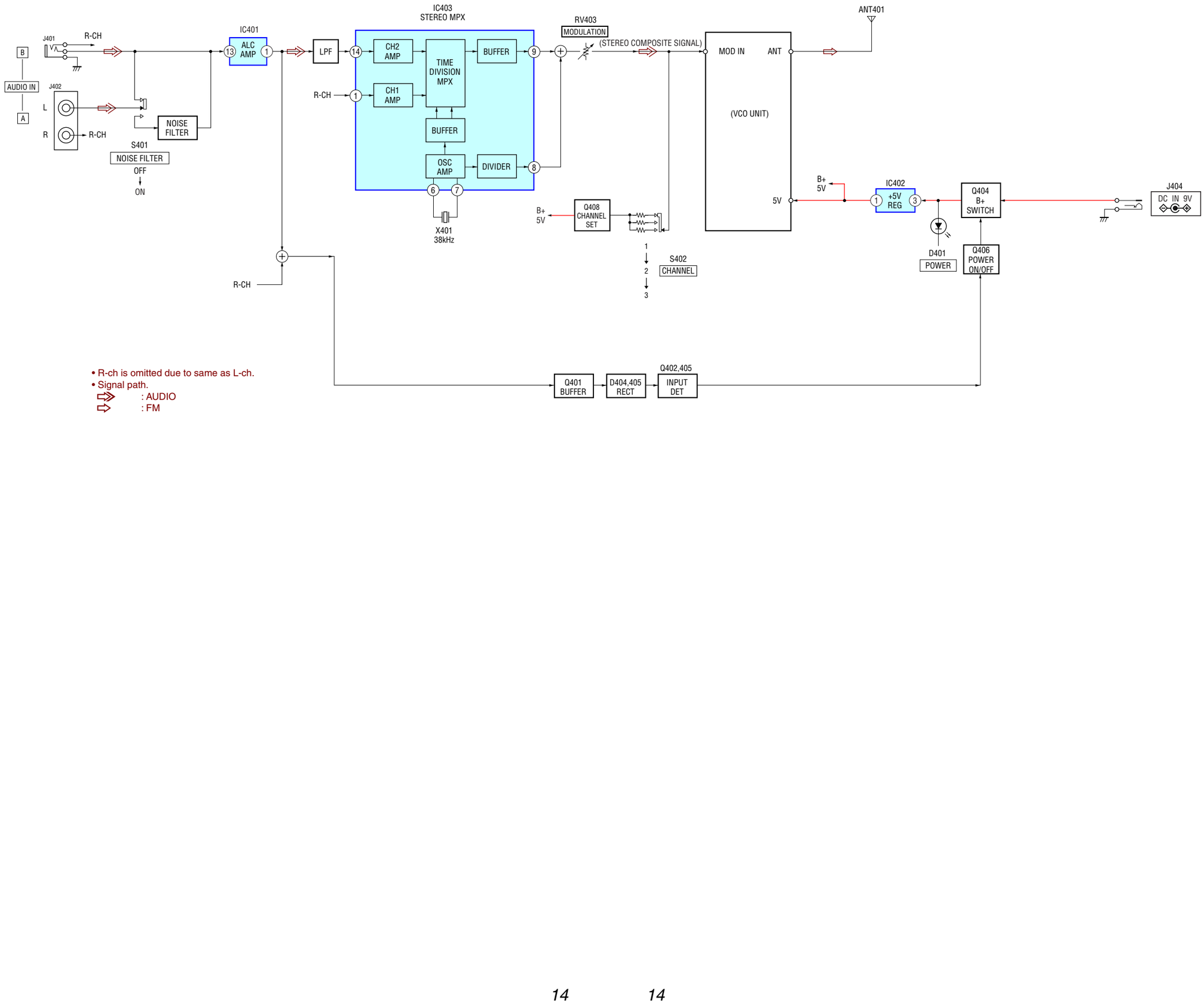
4-1. Block Diagrams (SRS-RF90R)



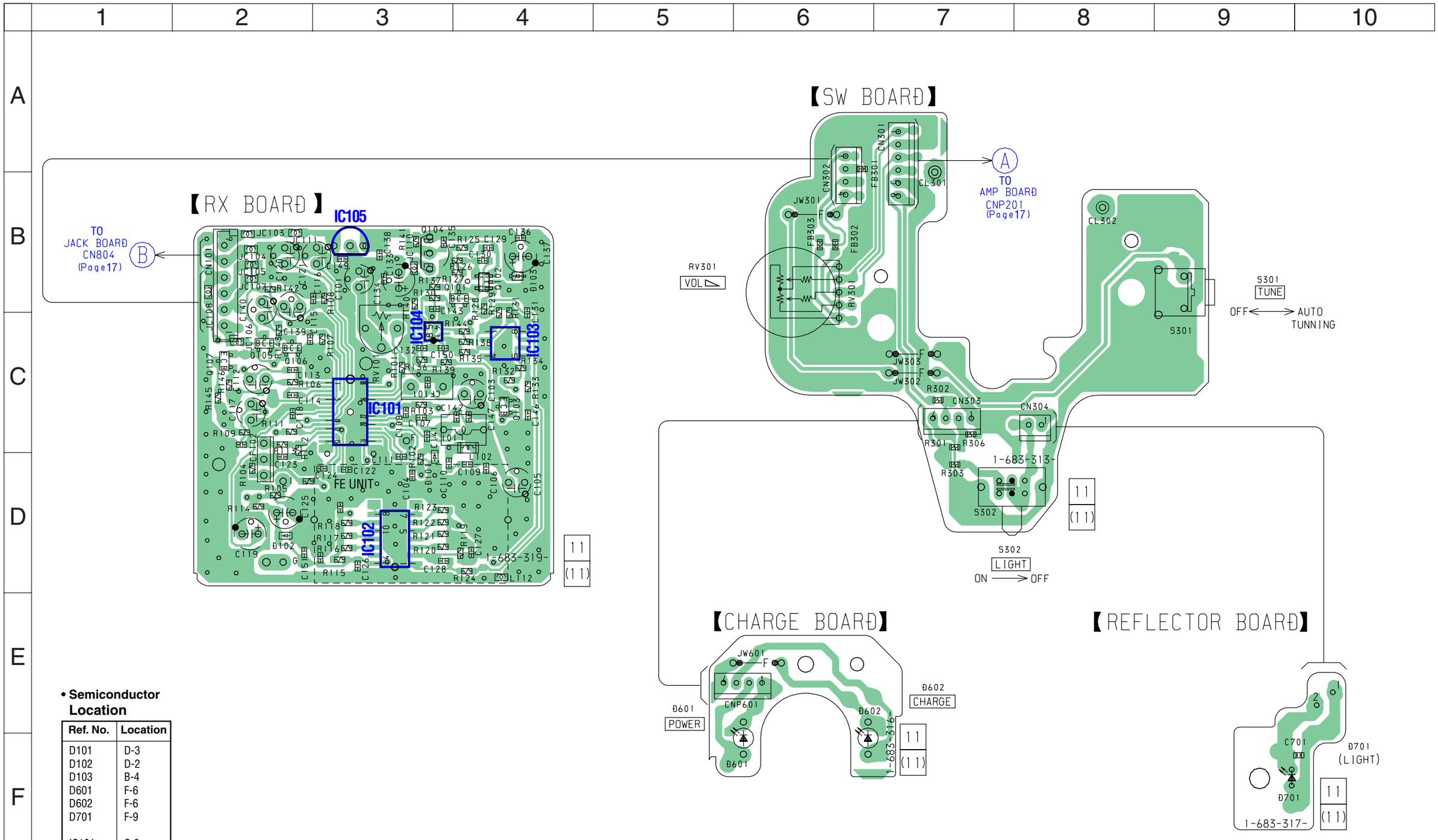
- Signal path.
  - ⇨ : FM
  - ⇨⇨: AUDIO
- R-ch is omitted due to same as L-ch.

SRS-RF90R/RF90RK/TMR-RF90

(TMR-RF90)



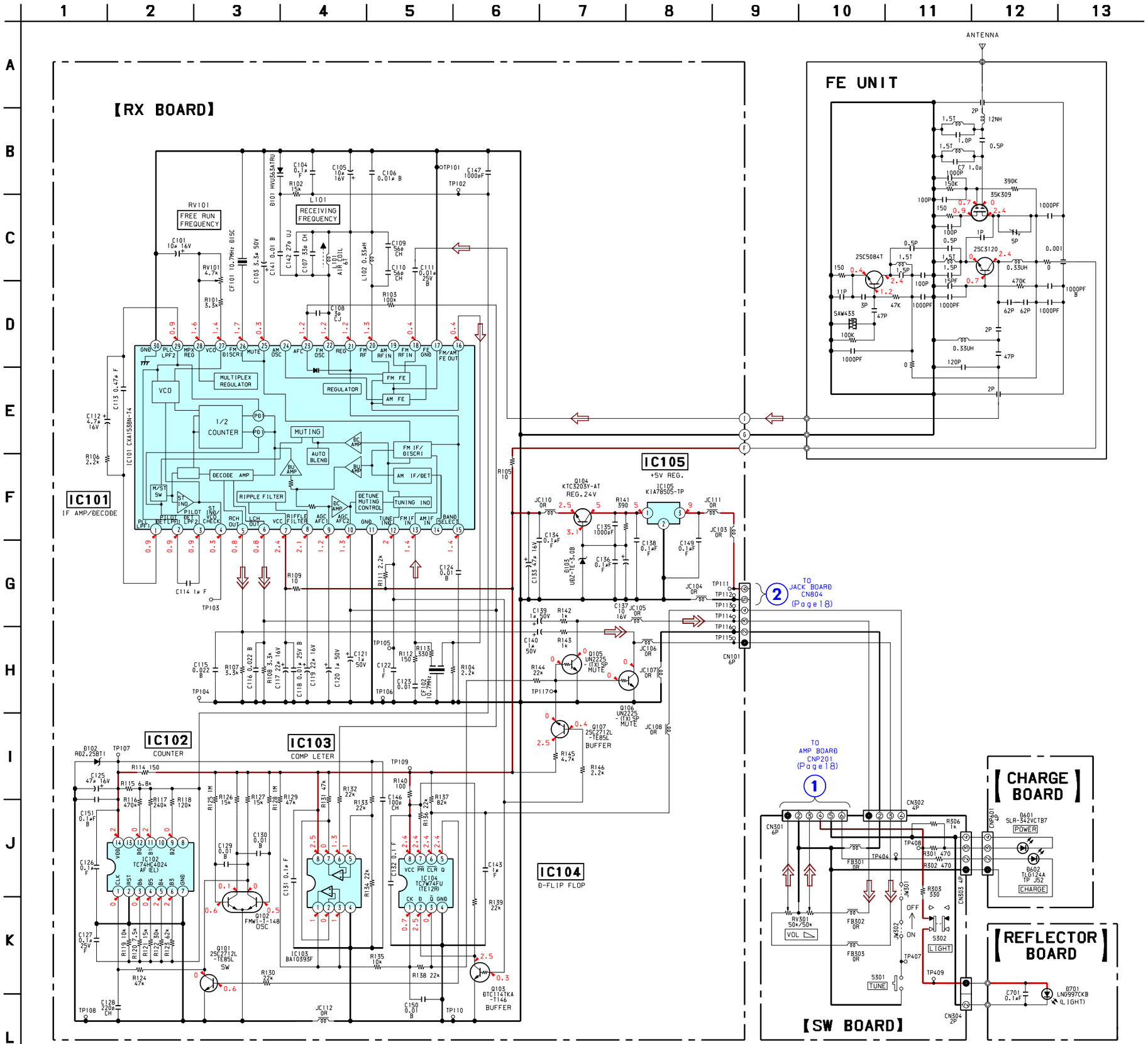
4-2. Printed Wiring Boards (SRS-RF90R) – RX Board Section –



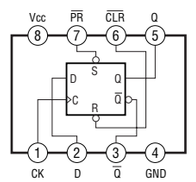
- **Semiconductor Location**

Ref. No.	Location
D101	D-3
D102	D-2
D103	B-4
D601	F-6
D602	F-6
D701	F-9
IC101	C-3
IC102	D-3
IC103	C-4
IC104	C-3
IC105	B-3
Q101	B-4
Q102	B-4
Q103	C-4
Q104	B-3
Q105	C-2
Q106	C-2
Q107	C-2

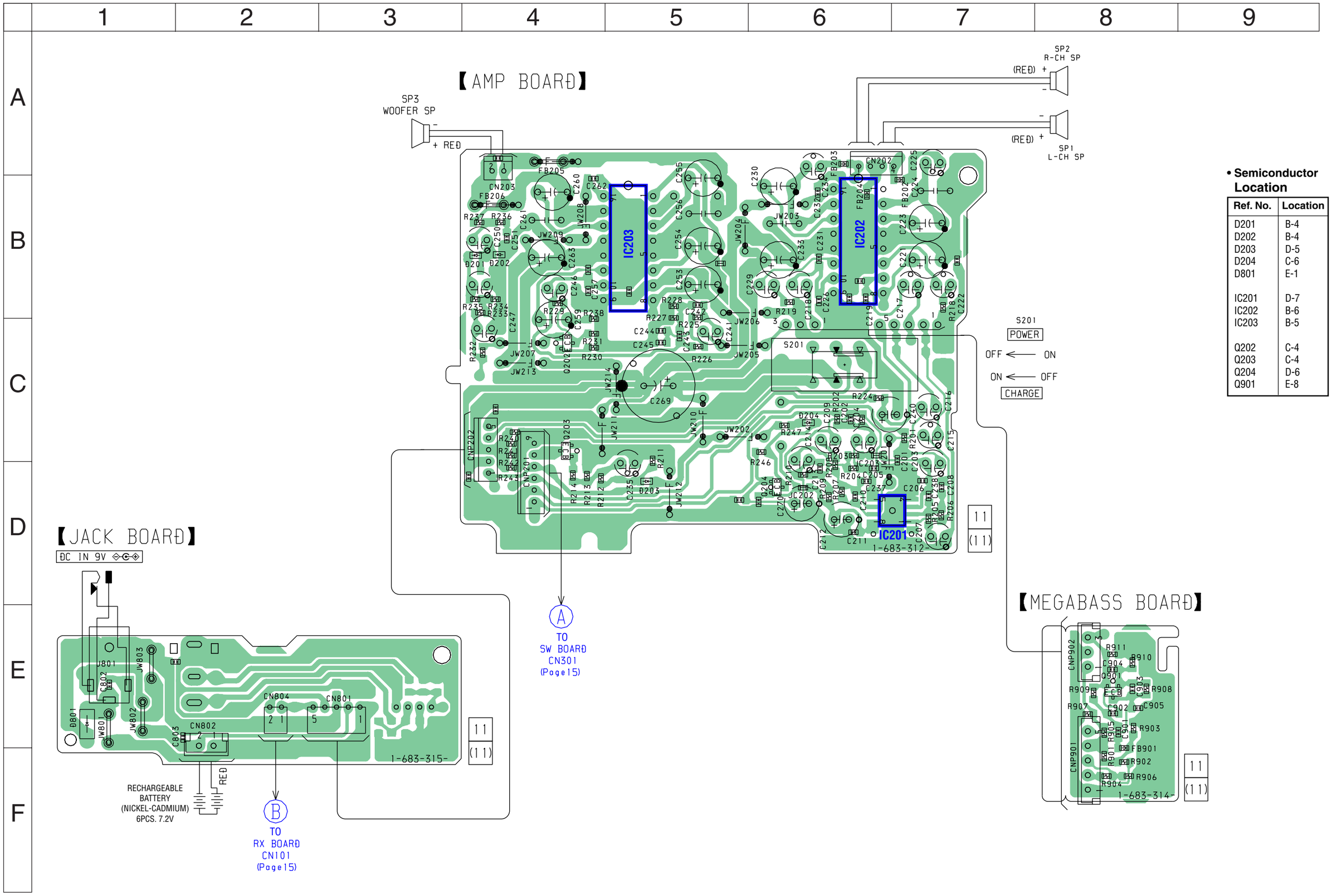
4-3. Schematic Diagram (SRS-RF90R) – RX Board Section –



• IC Block Diagram
IC104 TC7W74FU



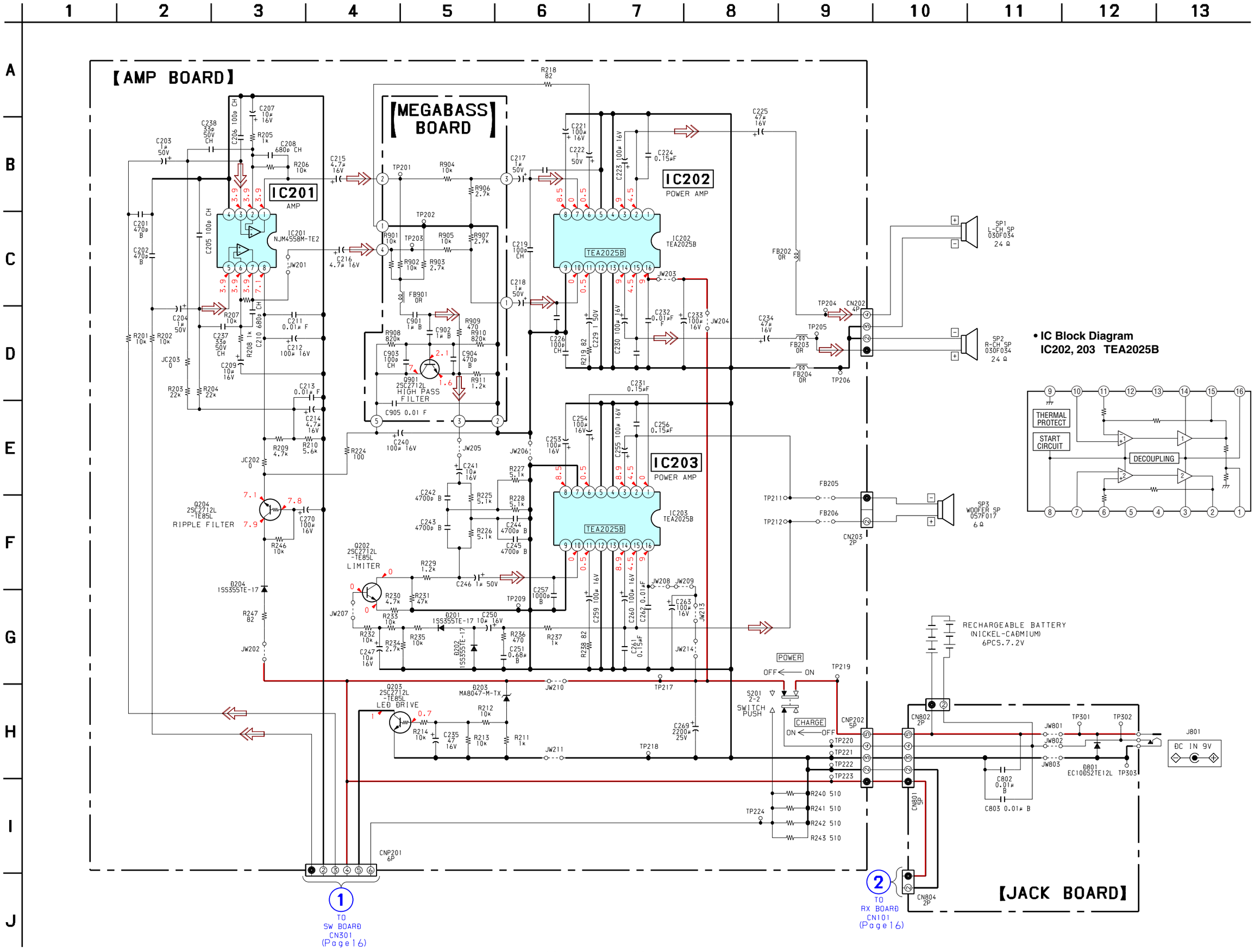
4-4. Printed Wiring Boards (SRS-RF90R) – AMP Board Section –



• **Semiconductor Location**

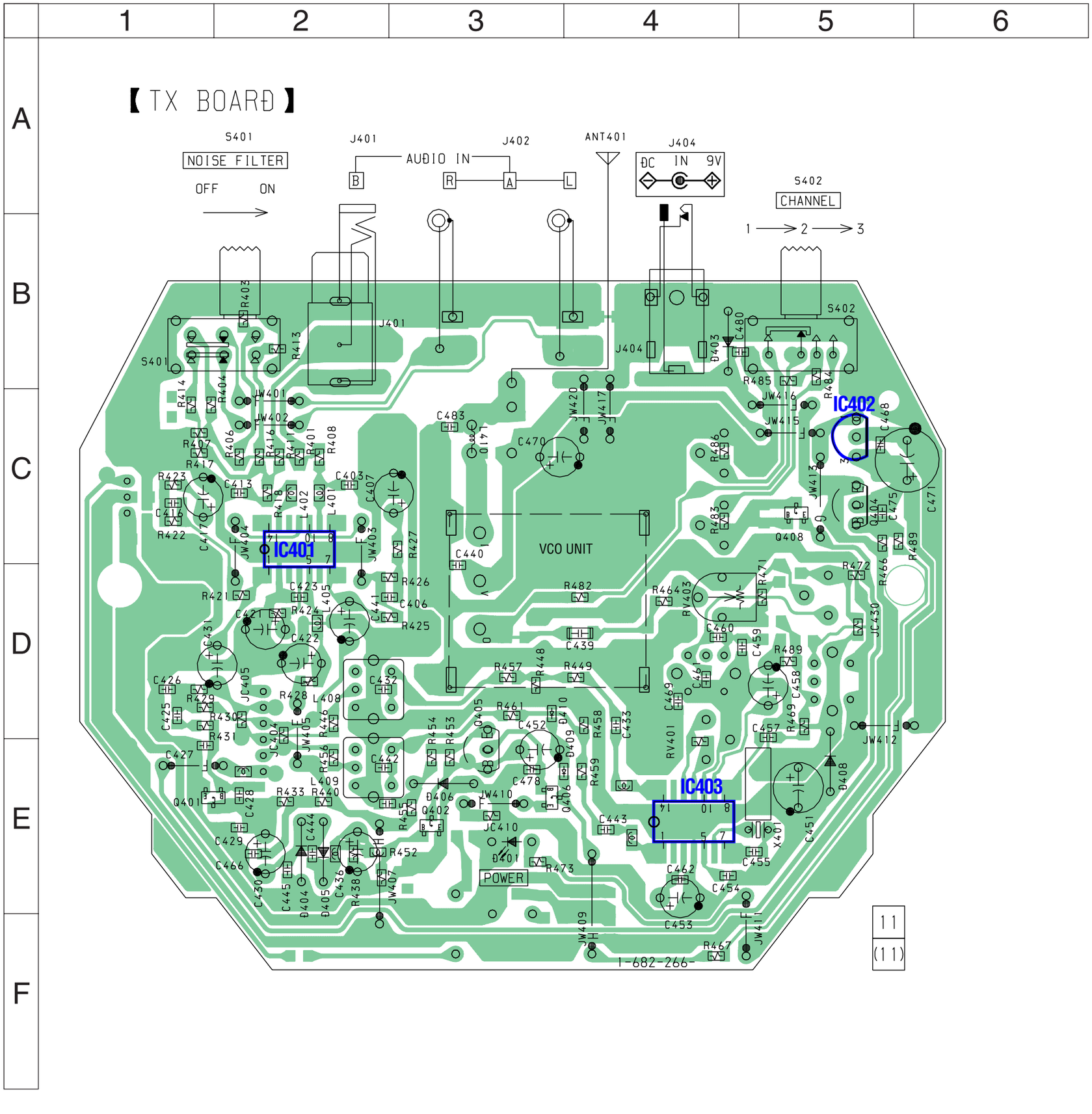
Ref. No.	Location
D201	B-4
D202	B-4
D203	D-5
D204	C-6
D801	E-1
IC201	D-7
IC202	B-6
IC203	B-5
Q202	C-4
Q203	C-4
Q204	D-6
Q901	E-8

4-5. Schematic Diagram (SRS-RF90R) – AMP Board Section –



• IC Block Diagram
IC202, 203 TEA2025B

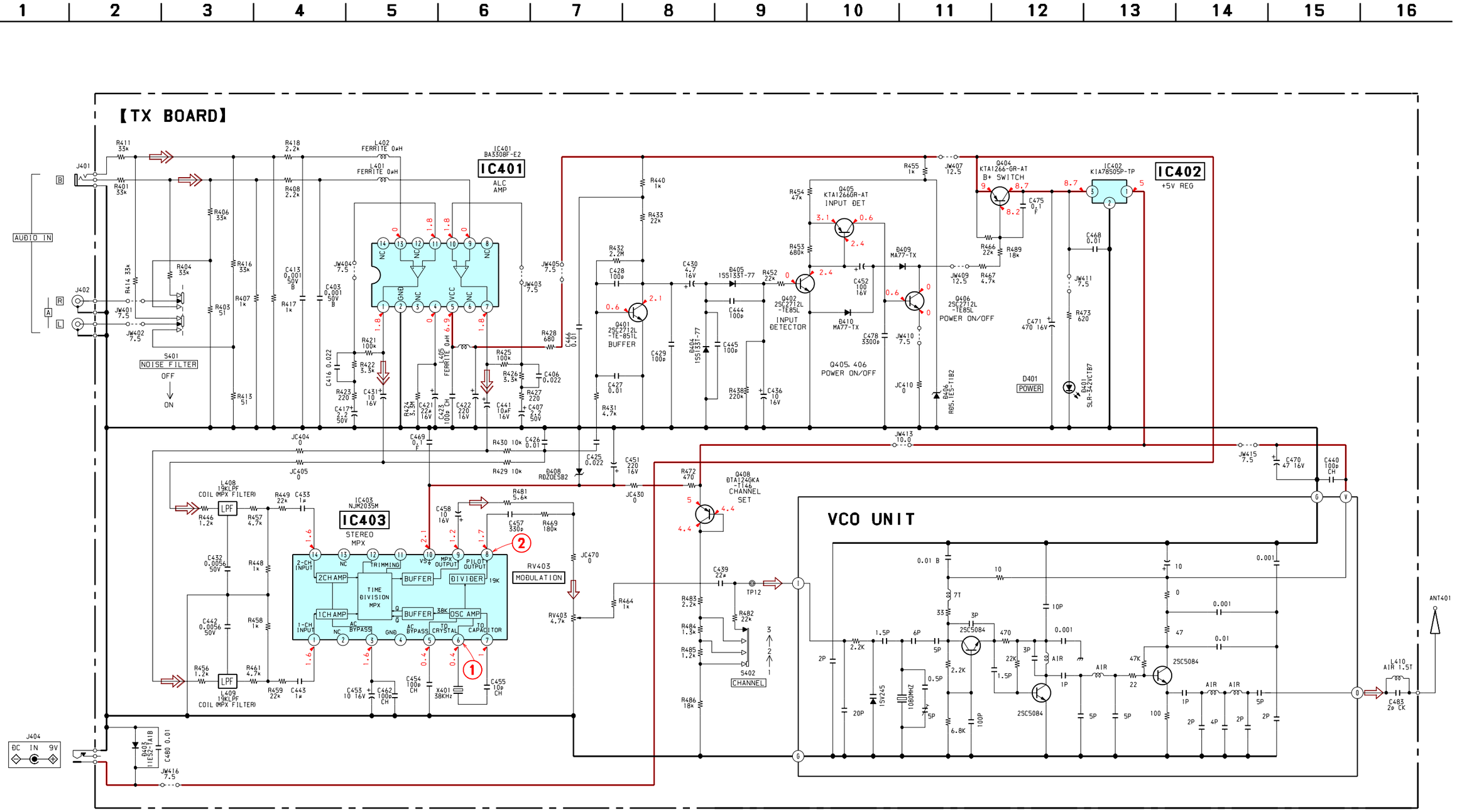
4-6. Printed Wiring Board (TMR-RF90R)



- **Semiconductor Location**

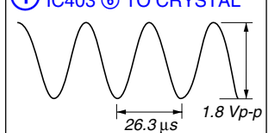
Ref. No.	Location
D401	E-3
D403	B-4
D404	E-2
D405	E-2
D406	E-3
D408	E-5
D409	D-4
D410	E-4
IC401	C-2
IC402	C-5
IC403	E-4
Q401	E-1
Q402	E-3
Q404	C-5
Q405	D-3
Q406	E-3
Q408	C-5

4-7. Schematic Diagram (TMR-RF90)



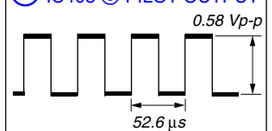
• **Waveforms**

① IC403 ⑥ TO CRYSTAL



500mV/DIV, 10 µs/DIV

② IC403 ⑧ PILOT OUTPUT



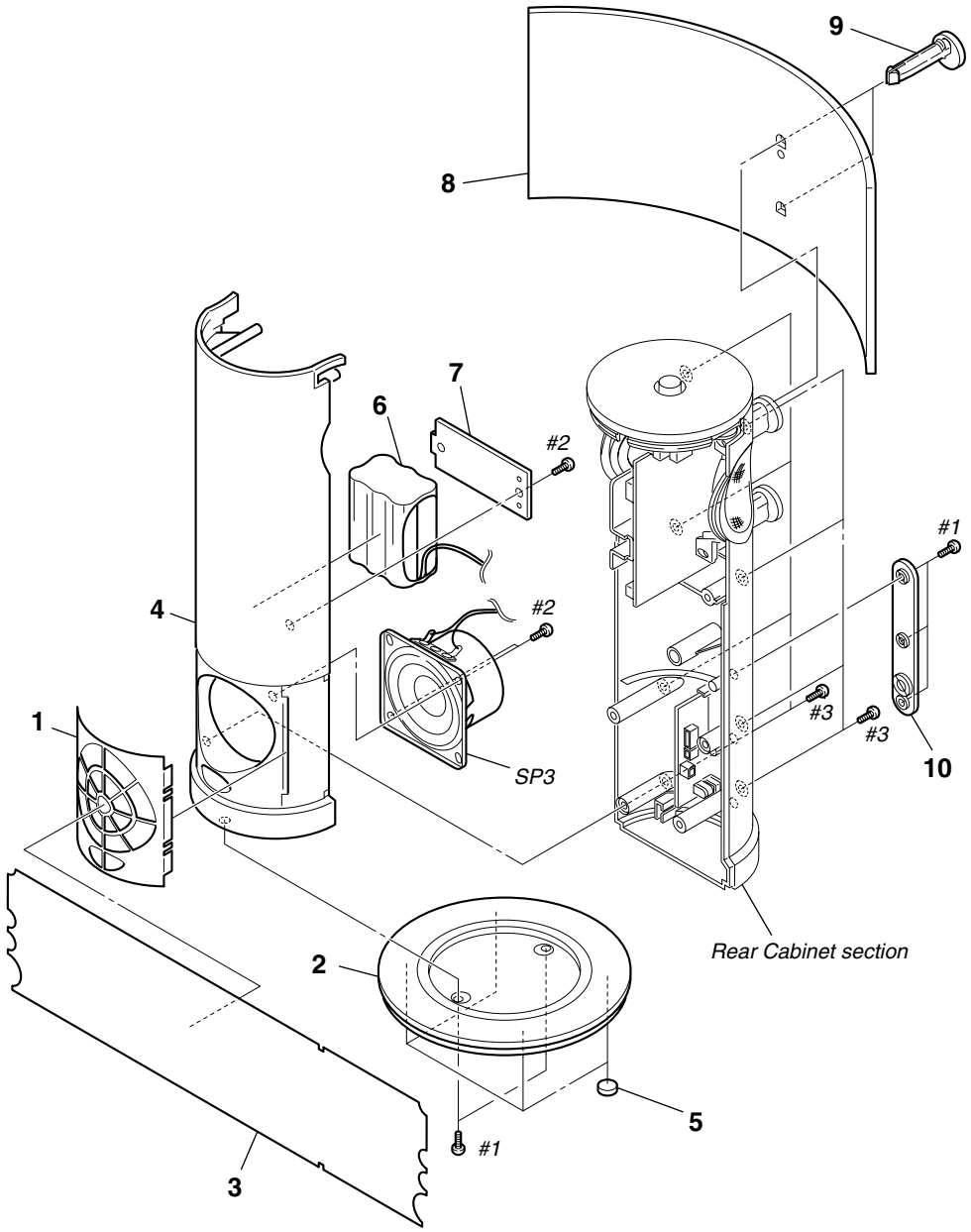
200mV/DIV, 20 µs/DIV

SECTION 5
EXPLODED VIEWS

NOTE:

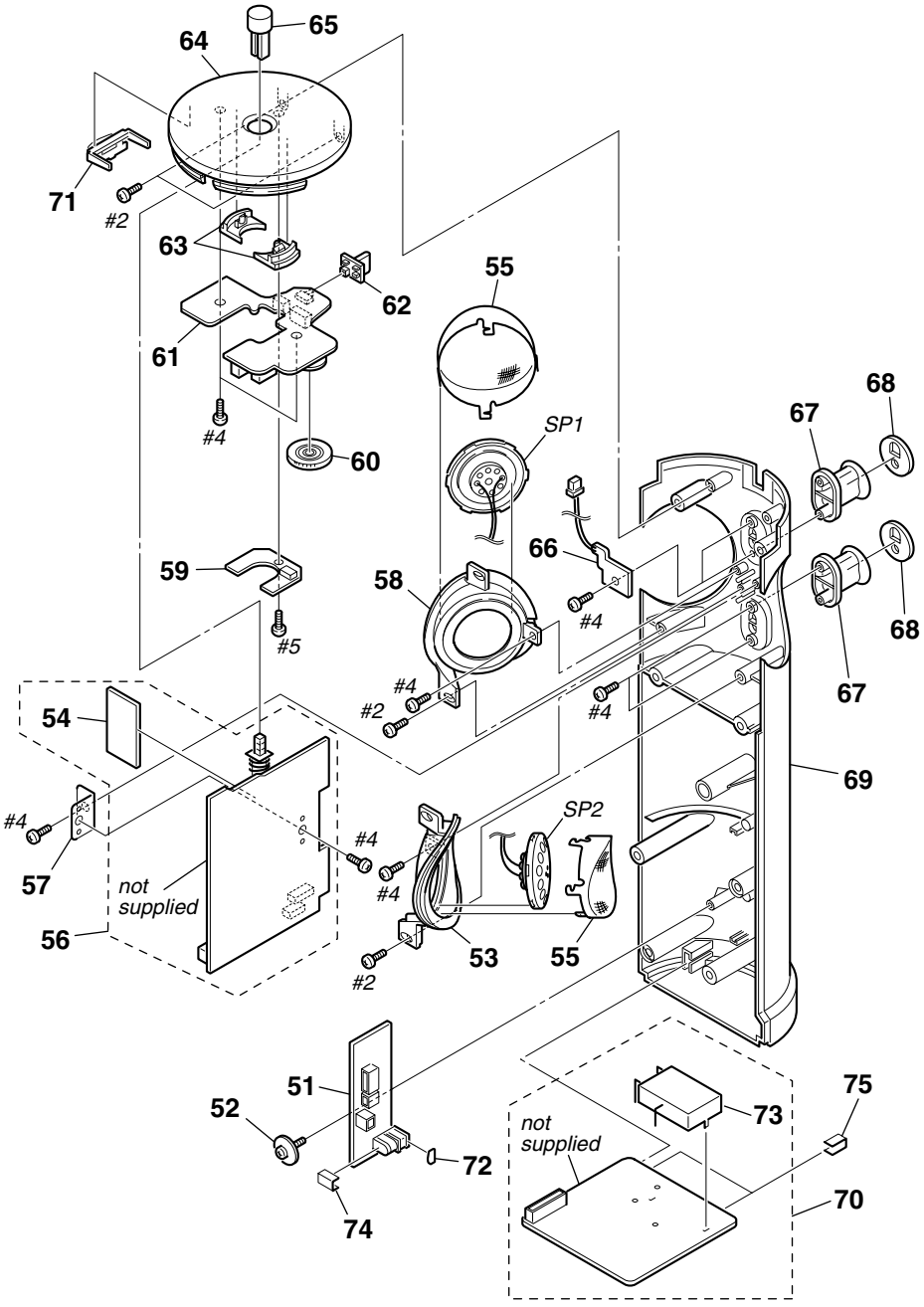
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model

5-1. Front Cabinet Section (SRS-RF90R)



Ref. No.	Part No.	Description	Remarks
1	3-235-615-01	BRACKET, GRILLE	
2	3-235-609-01	STAND	
3	3-235-612-01	GRILLE (DIA. 57)	
4	X-3381-186-1	CABINET SUB ASSY, FRONT	
5	3-232-664-01	FOOT, RUBBER	
6	1-756-252-31	BATTERY, NICKEL.CADMIUM	
* 7	1-683-318-11	RETAINER BOARD	
8	3-235-598-01	REFLECTOR	
9	3-235-610-01	HOLDER, REFLECTOR	
10	3-235-622-11	HOLDER, JACK	
SP3	1-544-997-11	SPEAKER (057F022)	
#1	7-685-147-14	SCREW +P 3X10 TYPE2 NON-SLIT	
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
#3	7-685-648-79	SCREW +BVTP 3X12 TYPE2 SLIT	

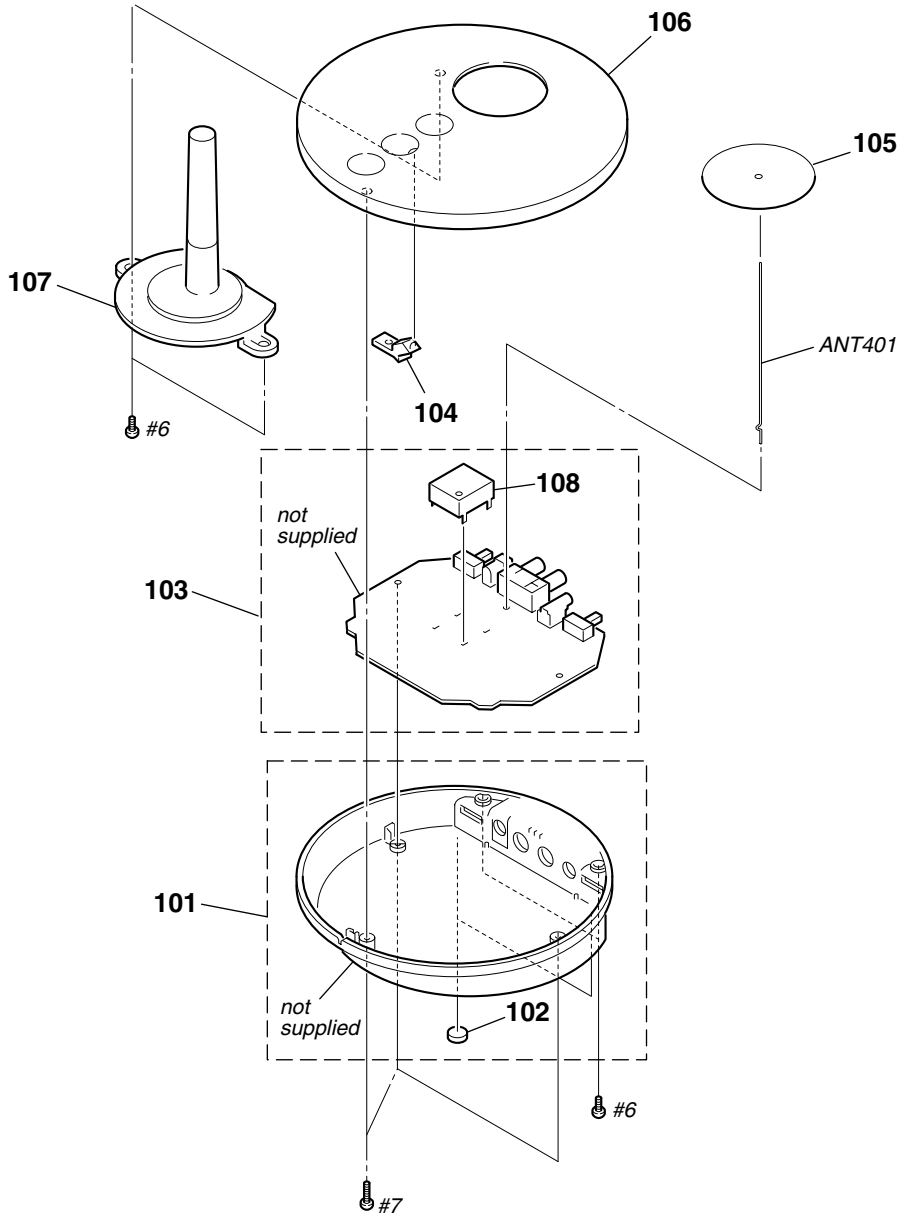
5-2. Rear Cabinet Section (SRS-RF90R)



Ref. No.	Part No.	Description	Remarks
51	1-683-315-11	JACK BOARD	
52	4-227-899-01	SCREW (DIA. 12), FROATING	
53	3-235-597-01	HOLDER (R), MDD	
* 54	A-3178-298-A	MEGABASS BOARD, COMPLETE	
55	3-235-613-01	GRILLE (DIA. 30)	
56	A-3178-137-A	AMP BOARD, COMPLETE	
* 57	3-233-819-01	BRACKET (PWB)	
58	3-235-596-01	HOLDER (L), MDD	
59	1-683-316-11	CHARGE BOARD	
60	3-235-601-01	KNOB, VOL	
61	1-683-313-11	SW BOARD	
62	3-235-600-01	COVER, SWITCH	
63	3-235-602-01	LIGHT (CHARGE), GUIDE	
64	X-3381-951-1	COVER SUB ASSY, TOP	
65	3-235-607-01	BUTTON, POWER	

Ref. No.	Part No.	Description	Remarks
66	1-683-317-11	REFLECTOR BOARD	
67	3-235-605-01	PILLAR	
68	3-235-617-01	CUSHION, LED	
69	3-235-595-11	CABINET, REAR	
* 70	A-3178-143-A	RX BOARD, COMPLETE	
71	3-235-606-01	BUTTON, TUNING	
72	3-238-666-01	CUSHION, DC IN	
* 73	A-3021-942-A	FE UNIT	
74	3-831-441-99	CUSHION (LCD)	
75	3-840-486-12	CUSHION, SPEAKER	
SP1	1-542-432-11	DRIVE (030F034)	
SP2	1-542-432-11	DRIVE (030F034)	
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
#4	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#5	7-685-131-19	SCREW +P 2.6X4 TYPE2 NON-SLIT	

5-3. TMR-RF90



Ref. No.	Part No.	Description	Remarks
101	X-3381-187-1	CABINET SUB ASSY, LOWER	
102	4-984-729-01	FOOT, RUBBER	
* 103	A-3178-145-A	TX BOARD, COMPLETE	
104	3-235-599-01	LIGHT (POWER), GUIDE,	
105	3-241-823-01	SHEET, BLIND	
106	3-235-620-01	CABINET (UPPER)(US)	
106	3-235-620-11	CABINET (UPPER)(CND)	
107	X-3381-189-1	ANTENNA SUB ASSY	
* 108	A-3021-940-A	VCO UNIT	
ANT401	4-213-164-01	TERMINAL, ANTENNA	
#6	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
#7	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	

SECTION 6
ELECTRICAL PARTS LIST

AMP

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH

When indicating parts by reference number, please include the board name.

- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
*	A-3178-137-A	AMP BOARD, COMPLETE (including MEGABASS BOARD, COMPLETE)			
		**********			
		< CAPACITOR >			
C201	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C202	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C203	1-126-160-11	ELECT	1uF	20%	50V
C204	1-126-160-11	ELECT	1uF	20%	50V
C205	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C206	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C207	1-124-233-11	ELECT	10uF	20.00%	16V
C208	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C209	1-124-233-11	ELECT	10uF	20.00%	16V
C210	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C211	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C212	1-126-382-11	ELECT	100uF	20.00%	16V
C213	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C214	1-124-259-11	ELECT	4.7uF	20.00%	16V
C215	1-124-259-11	ELECT	4.7uF	20.00%	16V
C216	1-124-259-11	ELECT	4.7uF	20.00%	16V
C217	1-126-160-11	ELECT	1uF	20%	50V
C218	1-126-160-11	ELECT	1uF	20%	50V
C219	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C221	1-126-933-11	ELECT	100uF	20.00%	16V
C222	1-126-160-11	ELECT	1uF	20%	50V
C223	1-126-933-11	ELECT	100uF	20.00%	16V
C224	1-130-497-00	MYLAR	0.15uF	5%	50V
C225	1-126-786-11	ELECT	47uF	20.00%	16V
C226	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C229	1-126-160-11	ELECT	1uF	20%	50V
C230	1-126-933-11	ELECT	100uF	20.00%	16V
C231	1-130-497-00	MYLAR	0.15uF	5%	50V
C232	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C233	1-126-933-11	ELECT	100uF	20.00%	16V
C234	1-126-786-11	ELECT	47uF	20.00%	16V
C235	1-126-786-11	ELECT	47uF	20.00%	16V
C237	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C238	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C240	1-126-382-11	ELECT	100uF	20.00%	16V
C241	1-124-233-11	ELECT	10uF	20.00%	16V
C242	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C243	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C244	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C245	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C246	1-126-160-11	ELECT	1uF	20%	50V
C247	1-124-233-11	ELECT	10uF	20.00%	16V
C250	1-124-233-11	ELECT	10uF	20.00%	16V
C251	1-119-866-11	CERAMIC CHIP	0.68uF	10.00%	10V
C253	1-126-933-11	ELECT	100uF	20.00%	16V
C254	1-126-933-11	ELECT	100uF	20.00%	16V
C255	1-126-933-11	ELECT	100uF	20.00%	16V
C256	1-130-497-00	MYLAR	0.15uF	5%	50V
C257	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C259	1-126-933-11	ELECT	100uF	20.00%	16V
C260	1-126-933-11	ELECT	100uF	20.00%	16V
C261	1-130-497-00	MYLAR	0.15uF	5%	50V
C262	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C263	1-126-933-11	ELECT	100uF	20.00%	16V
C269	1-126-943-11	ELECT	2200uF	20.00%	25V
C270	1-126-382-11	ELECT	100uF	20.00%	16V
		< CONNECTOR >			
* CN202	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CN203	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D201	8-719-988-61	DIODE 1SS355TE-17			
D202	8-719-988-61	DIODE 1SS355TE-17			
D203	8-719-422-31	DIODE MA8047-M-TX			
D204	8-719-988-61	DIODE 1SS355TE-17			
		< CONDUCTOR >			
FB202	1-216-864-11	METAL CHIP	0	5%	1/16W
FB203	1-216-864-11	METAL CHIP	0	5%	1/16W
FB204	1-216-864-11	METAL CHIP	0	5%	1/16W
		< IC >			
IC201	8-759-100-96	IC NJM4558M-TE2			
IC202	8-759-512-88	IC TEA2025B			
IC203	8-759-512-88	IC TEA2025B			
		< CONDUCTOR >			
JC202	1-216-864-11	METAL CHIP	0	5%	1/16W
JC203	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSISTOR >			
Q202	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
Q203	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
Q204	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
		< RESISTOR >			
R201	1-216-833-11	METAL CHIP	10K	5%	1/16W
R202	1-216-833-11	METAL CHIP	10K	5%	1/16W
R203	1-216-837-11	METAL CHIP	22K	5%	1/16W
R204	1-216-837-11	METAL CHIP	22K	5%	1/16W
R205	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R206	1-216-833-11	METAL CHIP	10K	5%	1/16W
R207	1-216-833-11	METAL CHIP	10K	5%	1/16W
R208	1-216-821-11	METAL CHIP	1K	5%	1/16W
R209	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R210	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R211	1-216-821-11	METAL CHIP	1K	5%	1/16W
R212	1-216-833-11	METAL CHIP	10K	5%	1/16W
R213	1-216-833-11	METAL CHIP	10K	5%	1/16W
R214	1-216-833-11	METAL CHIP	10K	5%	1/16W
R218	1-216-808-11	METAL CHIP	82	5%	1/16W
R219	1-216-808-11	METAL CHIP	82	5%	1/16W
R224	1-216-809-11	METAL CHIP	100	5%	1/16W
R225	1-218-272-11	RES-CHIP	5.1K	5%	1/10W
R226	1-218-272-11	RES-CHIP	5.1K	5%	1/10W
R227	1-218-272-11	RES-CHIP	5.1K	5%	1/10W
R228	1-218-272-11	RES-CHIP	5.1K	5%	1/10W
R229	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R230	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R231	1-216-841-11	METAL CHIP	47K	5%	1/16W
R232	1-216-833-11	METAL CHIP	10K	5%	1/16W
R233	1-216-833-11	METAL CHIP	10K	5%	1/16W
R234	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R235	1-216-833-11	METAL CHIP	10K	5%	1/16W
R236	1-216-817-11	METAL CHIP	470	5%	1/16W
R237	1-216-821-11	METAL CHIP	1K	5%	1/16W
R238	1-216-808-11	METAL CHIP	82	5%	1/16W
R240	1-216-042-00	METAL CHIP	510	5%	1/10W
R241	1-216-042-00	METAL CHIP	510	5%	1/10W
R242	1-216-042-00	METAL CHIP	510	5%	1/10W
R243	1-216-042-00	METAL CHIP	510	5%	1/10W
R246	1-216-833-11	METAL CHIP	10K	5%	1/16W
R247	1-216-808-11	METAL CHIP	82	5%	1/16W
		< SWITCH >			
S201	1-786-285-11	SWITCH, PUSH (2 KEY)(POWER, CHARGE)			
**********					
*	1-683-316-11	CHARGE BOARD			
		**********			
		< DIODE >			
D601	8-719-059-98	DIODE SLR-342VCTB7(POWER)			
D602	8-719-072-97	DIODE TLG124A(TPJ52)(CHARGE)			
**********					
*	1-683-315-11	JACK BOARD			
		**********			
		< CAPACITOR >			
C802	1-163-021-11	CERAMIC CHIP	0.01uF	10.00%	50V
C803	1-163-021-11	CERAMIC CHIP	0.01uF	10.00%	50V
		< CONNECTOR >			
* CN801	1-566-002-11	PIN, CONNECTOR (PC BOARD) 5P			
* CN802	1-568-482-11	PIN, CONNECTOR (PC BOARD) 2P			
* CN804	1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D801	8-719-210-33	DIODE EC10DS2TE12L			
		< JACK >			
J801	1-785-066-11	JACK,DC(POLARITY UNIFIED TYPE) (DC IN 9V)			
**********					
*	A-3178-298-A	MEGABASS BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C901	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C902	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C903	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C904	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C905	1-162-974-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
CNP901	1-794-496-11	PIN, CONNECTOR 5P			
CNP902	1-815-398-11	PIN, CONNECTOR 3P			
		< CONDUCTOR >			
FB901	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSISTOR >			
Q901	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
		< RESISTOR >			
R901	1-216-833-11	METAL CHIP	10K	5%	1/16W
R902	1-216-833-11	METAL CHIP	10K	5%	1/16W
R903	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R904	1-216-833-11	METAL CHIP	10K	5%	1/16W
R905	1-216-833-11	METAL CHIP	10K	5%	1/16W
R906	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R907	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R908	1-218-917-11	RES-CHIP	820K	5%	1/10W
R909	1-216-817-11	METAL CHIP	470	5%	1/16W
R910	1-218-917-11	RES-CHIP	820K	5%	1/10W
R911	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
**********					
*	1-683-317-11	REFLECTOR BOARD			
		**********			
		< CAPACITOR >			
C701	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< DIODE >			
D701	6-500-200-01	DIODE HLMP-NS30-S0000(REFLECTOR)			
**********					
*	A-3178-143-A	RX BOARD, COMPLETE			
		**********			
*	A-3021-942-A	FE UNIT			
		< CAPACITOR >			
C101	1-124-233-11	ELECT	10uF	20.00%	16V
C103	1-126-162-11	ELECT	3.3uF	20%	50V
C104	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C105	1-124-233-11	ELECT	10uF	20.00%	16V
C106	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

RX

Ref. No.	Part No.	Description			Remarks
C107	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C108	1-162-908-11	CERAMIC CHIP	3PF	8.33%	50V
C109	1-162-924-11	CERAMIC CHIP	56PF	5.00%	50V
C110	1-162-924-11	CERAMIC CHIP	56PF	5.00%	50V
C111	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C112	1-124-259-11	ELECT	4.7uF	20.00%	16V
C113	1-113-619-11	CERAMIC CHIP	0.47uF		10V
C114	1-115-156-11	CERAMIC CHIP	1uF		10V
C115	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C116	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C117	1-124-234-00	ELECT	22uF	20%	16V
C118	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C119	1-124-234-00	ELECT	22uF	20%	16V
C120	1-104-942-11	ELECT	1uF	20.00%	50V
C121	1-104-942-11	ELECT	1uF	20.00%	50V
C122	1-115-156-11	CERAMIC CHIP	1uF		10V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C125	1-126-786-11	ELECT	47uF	20.00%	16V
C126	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C127	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C128	1-164-230-11	CERAMIC CHIP	220PF	5.00%	50V
C129	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C130	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C131	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C132	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C133	1-126-786-11	ELECT	47uF	20.00%	16V
C134	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C135	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C136	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C137	1-124-233-11	ELECT	10uF	20.00%	16V
C138	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C139	1-104-942-11	ELECT	1uF	20.00%	50V
C140	1-104-942-11	ELECT	1uF	20.00%	50V
C141	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C142	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C143	1-115-156-11	CERAMIC CHIP	1uF		10V
C146	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C147	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C149	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C150	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C151	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< FILTER >			
CF101	1-577-572-11	FILTER, CERAMIC			
CF102	1-577-588-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN101	1-564-779-11	PLUG, CONNECTOR (2.5MM) 6P			
		< DIODE >			
D101	8-719-083-90	DIODE HVU363ATRU			
D102	8-719-063-66	DIODE RD2.2SB-T1			
D103	8-719-056-74	DIODE UDZ-TE-17-3.0B			

Ref. No.	Part No.	Description			Remarks
		< IC >			
IC101	8-752-072-12	IC CXA1538N-T4			
IC102	8-759-453-43	IC TC74HC4024AF(EL)			
IC103	8-759-510-73	IC BA10393F-E2			
IC104	8-759-083-94	IC TC7W74FU(TE12R)			
IC105	8-759-537-90	IC KIA78S05P-TP			
		< CONDUCTOR >			
JC103	1-216-864-11	METAL CHIP	0	5%	1/16W
JC104	1-216-864-11	METAL CHIP	0	5%	1/16W
JC105	1-216-864-11	METAL CHIP	0	5%	1/16W
JC106	1-216-864-11	METAL CHIP	0	5%	1/16W
JC107	1-216-864-11	METAL CHIP	0	5%	1/16W
JC108	1-216-864-11	METAL CHIP	0	5%	1/16W
JC110	1-216-864-11	METAL CHIP	0	5%	1/16W
JC111	1-216-864-11	METAL CHIP	0	5%	1/16W
JC112	1-216-864-11	METAL CHIP	0	5%	1/16W
		< COIL >			
L101	1-428-911-11	COIL, AIR-CORE			
L102	1-412-933-11	INDUCTOR	0.33uH		
		< TRANSISTOR >			
Q101	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
Q102	8-729-903-10	TRANSISTOR	FMW1-T-148		
Q103	8-729-027-44	TRANSISTOR	DTC114TKA-T146		
Q104	8-729-212-02	TRANSISTOR	KTC3203Y-AT		
Q105	8-729-043-69	TRANSISTOR	UN2225-(TX).S0		
Q106	8-729-043-69	TRANSISTOR	UN2225-(TX).S0		
Q107	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
		< RESISTOR >			
R101	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R102	1-216-835-11	METAL CHIP	15K	5%	1/16W
R103	1-216-845-11	METAL CHIP	100K	5%	1/16W
R104	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R105	1-216-797-11	METAL CHIP	10	5%	1/16W
R106	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R107	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R108	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R109	1-216-797-11	METAL CHIP	10	5%	1/16W
R111	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R112	1-216-811-11	METAL CHIP	150	5%	1/16W
R113	1-216-815-11	METAL CHIP	330	5%	1/16W
R114	1-216-811-11	METAL CHIP	150	5%	1/16W
R115	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R116	1-216-853-11	METAL CHIP	470K	5%	1/16W
R117	1-218-749-11	RES-CHIP	240K	5%	1/10W
R118	1-216-846-11	METAL CHIP	120K	5%	1/16W
R119	1-216-833-11	METAL CHIP	10K	5%	1/16W
R120	1-218-344-11	RES-CHIP	7.5K	5%	1/10W
R121	1-216-835-11	METAL CHIP	15K	5%	1/16W
R122	1-218-727-11	RES-CHIP	30K	5%	1/10W
R123	1-218-890-11	RES-CHIP	62K	5%	1/10W
R124	1-216-841-11	METAL CHIP	47K	5%	1/16W
R125	1-216-857-11	METAL CHIP	1M	5%	1/16W
R126	1-216-835-11	METAL CHIP	15K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R127	1-216-835-11	METAL CHIP	15K	5%	1/16W
R128	1-216-857-11	METAL CHIP	1M	5%	1/16W
R129	1-216-841-11	METAL CHIP	47K	5%	1/16W
R130	1-216-837-11	METAL CHIP	22K	5%	1/16W
R131	1-216-841-11	METAL CHIP	47K	5%	1/16W
R132	1-216-837-11	METAL CHIP	22K	5%	1/16W
R133	1-216-837-11	METAL CHIP	22K	5%	1/16W
R134	1-216-837-11	METAL CHIP	22K	5%	1/16W
R135	1-216-833-11	METAL CHIP	10K	5%	1/16W
R136	1-216-837-11	METAL CHIP	22K	5%	1/16W
R137	1-216-844-11	METAL CHIP	82K	5%	1/16W
R138	1-216-837-11	METAL CHIP	22K	5%	1/16W
R139	1-216-837-11	METAL CHIP	22K	5%	1/16W
R140	1-216-809-11	METAL CHIP	100	5%	1/16W
R141	1-216-816-11	METAL CHIP	390	5%	1/16W
R142	1-216-821-11	METAL CHIP	1K	5%	1/16W
R143	1-216-821-11	METAL CHIP	1K	5%	1/16W
R144	1-216-837-11	METAL CHIP	22K	5%	1/16W
R145	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R146	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
		< VARIABLE RESISTOR >			
RV101	1-241-763-11	RES, ADJ, CARBON 4.7K			
**********					
*	1-683-313-11	SW BOARD			
		**********			
		< CONNECTOR >			
* CN301	1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
* CN302	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CN303	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CN304	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
		< FERRITE BEAD >			
FB301	1-216-864-11	METAL CHIP	0	5%	1/16W
FB302	1-216-864-11	METAL CHIP	0	5%	1/16W
FB303	1-216-864-11	METAL CHIP	0	5%	1/16W
		< RESISTOR >			
R301	1-216-817-11	METAL CHIP	470	5%	1/16W
R302	1-216-817-11	METAL CHIP	470	5%	1/16W
R303	1-216-815-11	METAL CHIP	330	5%	1/16W
R306	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< VARIABLE RESISTOR >			
RV301	1-225-472-11	RES, VAR, CARBON 50K/50K(VOL ◺)			
		< SWITCH >			
S301	1-771-980-11	SWITCH, TACTILE(TUNE)			
S302	1-554-574-21	SWITCH, SLIDE(LIGHT)			
**********					

Ref. No.	Part No.	Description			Remarks
*	A-3178-145-A	TX BOARD, COMPLETE			
		**********			
*	A-3021-940-A	VCO UNIT			
		< CAPACITOR >			
C403	1-163-009-11	CERAMIC CHIP	0.001uF	10.00%	50V
C406	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C407	1-126-961-11	ELECT	2.2uF	20.00%	50V
C413	1-163-009-11	CERAMIC CHIP	0.001uF	10.00%	50V
C416	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C417	1-126-961-11	ELECT	2.2uF	20.00%	50V
C421	1-124-234-00	ELECT	22uF	20%	16V
C422	1-126-934-11	ELECT	220uF	20.00%	16V
C423	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C425	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C426	1-163-021-11	CERAMIC CHIP	0.01uF	10.00%	50V
C427	1-163-021-11	CERAMIC CHIP	0.01uF	10.00%	50V
C428	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C429	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C430	1-124-259-11	ELECT	4.7uF	20.00%	16V
C431	1-126-157-11	ELECT	10uF	20%	16V
C432	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C433	1-164-346-11	CERAMIC CHIP	1uF		16V
C436	1-126-157-11	ELECT	10uF	20%	16V
C439	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C440	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C441	1-126-157-11	ELECT	10uF	20%	16V
C442	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C443	1-164-346-11	CERAMIC CHIP	1uF		16V
C444	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C445	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C451	1-126-934-11	ELECT	220uF	20.00%	16V
C452	1-126-933-11	ELECT	100uF	20.00%	16V
C453	1-126-157-11	ELECT	10uF	20%	16V
C454	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C455	1-163-227-11	CERAMIC CHIP	10PF	5.00%	50V
C457	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C458	1-126-157-11	ELECT	10uF	20%	16V
C462	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C466	1-163-021-11	CERAMIC CHIP	0.01uF	10.00%	50V
C468	1-163-021-11	CERAMIC CHIP	0.01uF	10.00%	50V
C469	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C470	1-126-786-11	ELECT	47uF	20.00%	16V
C471	1-126-935-11	ELECT	470uF	20.00%	16V
C475	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C478	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C480	1-163-021-11	CERAMIC CHIP	0.01uF	10.00%	50V
C483	1-163-085-00	CERAMIC CHIP	2PF		50V
		< DIODE >			
D401	8-719-059-98	DIODE SLR-342VCTB7(POWER)			
D403	8-719-200-82	DIODE 11ES2-TA1B			
D404	8-719-991-33	DIODE 1SS133T-77			
D405	8-719-991-33	DIODE 1SS133T-77			
D406	8-719-109-85	DIODE RD5.1ES-T1B2			
D408	8-719-109-51	DIODE RD2.0ESB2			
D409	8-719-421-40	DIODE MA77-TX			
D410	8-719-421-40	DIODE MA77-TX			

TX

Ref. No.	Part No.	Description			Remarks
		< IC >			
IC401	8-759-998-71	IC BA3308F-E2			
IC402	8-759-537-90	IC KIA78S05P-TP			
IC403	8-759-667-59	IC NJM2035M(TE2)			
		< JACK >			
J401	1-566-822-21	JACK(AUDIO IN)			
J402	1-580-441-61	JACK, PIN 2P(AUDIO IN)			
J404	1-785-066-11	JACK,DC(POLARITY UNIFIED TYPE)(DC IN 9V)			
		< CONDUCTOR >			
JC404	1-216-295-00	SHORT	0		
JC405	1-216-295-00	SHORT	0		
JC410	1-216-295-00	SHORT	0		
JC430	1-216-295-00	SHORT	0		
JC470	1-216-295-00	SHORT	0		
		< COIL >			
L401	1-414-234-11	FERRITE	0uH		
L402	1-414-234-11	FERRITE	0uH		
L405	1-414-234-11	FERRITE	0uH		
L408	1-419-079-21	COIL (MPX FILTER)			
L409	1-419-079-21	COIL (MPX FILTER)			
L410	1-419-662-11	COIL, AIR-CORE			
		< TRANSISTOR >			
Q401	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
Q402	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
Q404	8-729-045-00	TRANSISTOR	KTA1266GR-AT		
Q405	8-729-045-00	TRANSISTOR	KTA1266GR-AT		
Q406	8-729-200-72	TRANSISTOR	2SC2712L-TE85L		
Q408	8-729-040-78	TRANSISTOR	DTA124GKA-T146		
		< RESISTOR >			
R401	1-216-085-00	RES-CHIP	33K	5%	1/10W
R403	1-216-018-00	METAL CHIP	51	5%	1/10W
R404	1-216-085-00	RES-CHIP	33K	5%	1/10W
R406	1-216-085-00	RES-CHIP	33K	5%	1/10W
R407	1-216-049-11	RES-CHIP	1K	5%	1/10W
R408	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R411	1-216-085-00	RES-CHIP	33K	5%	1/10W
R413	1-216-018-00	METAL CHIP	51	5%	1/10W
R414	1-216-085-00	RES-CHIP	33K	5%	1/10W
R416	1-216-085-00	RES-CHIP	33K	5%	1/10W
R417	1-216-049-11	RES-CHIP	1K	5%	1/10W
R418	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R421	1-216-097-11	RES-CHIP	100K	5%	1/10W
R422	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R423	1-216-033-00	METAL CHIP	220	5%	1/10W
R424	1-216-133-00	RES-CHIP	3.3M	5%	1/10W
R425	1-216-097-11	RES-CHIP	100K	5%	1/10W
R426	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R427	1-216-033-00	METAL CHIP	220	5%	1/10W
R428	1-216-045-00	METAL CHIP	680	5%	1/10W
R429	1-216-073-00	RES-CHIP	10K	5%	1/10W
R430	1-216-073-00	RES-CHIP	10K	5%	1/10W
R431	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R433	1-216-081-00	METAL CHIP	22K	5%	1/10W
R438	1-216-105-00	RES-CHIP	220K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R440	1-216-049-11	RES-CHIP	1K	5%	1/10W
R446	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R448	1-216-049-11	RES-CHIP	1K	5%	1/10W
R449	1-216-081-00	METAL CHIP	22K	5%	1/10W
R452	1-216-081-00	METAL CHIP	22K	5%	1/10W
R453	1-216-117-00	METAL CHIP	680K	5%	1/10W
R454	1-216-089-00	RES-CHIP	47K	5%	1/10W
R455	1-216-049-11	RES-CHIP	1K	5%	1/10W
R456	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R457	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R458	1-216-049-11	RES-CHIP	1K	5%	1/10W
R459	1-216-081-00	METAL CHIP	22K	5%	1/10W
R461	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R464	1-216-049-11	RES-CHIP	1K	5%	1/10W
R466	1-216-081-00	METAL CHIP	22K	5%	1/10W
R467	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R469	1-216-103-00	METAL CHIP	180K	5%	1/10W
R472	1-216-041-00	METAL CHIP	470	5%	1/10W
R473	1-216-044-00	METAL CHIP	620	5%	1/10W
R481	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R482	1-216-081-00	METAL CHIP	22K	5%	1/10W
R483	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R484	1-216-654-11	METAL CHIP	1.3K	0.5%	1/10W
R485	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R486	1-216-079-00	METAL CHIP	18K	5%	1/10W
R489	1-216-079-00	METAL CHIP	18K	5%	1/10W
		< VARIABLE RESISTOR >			
RV403	1-241-763-11	RES, ADJ, CARBON 4.7K			
		< SWITCH >			
S401	1-771-961-11	SWITCH, SLIDE(NOISE FILTER)			
S402	1-771-962-11	SWITCH, SLIDE(CHANNEL)			
		< VIBRATOR >			
X401	1-781-850-11	VIBRATOR, CRYSTAL(38kHz)			

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MISCELLANEOUS
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6	1-756-252-31	BATTERY, NICKEL.CADMIUM
SP1	1-542-432-11	DRIVE (030F034)
SP2	1-542-432-11	DRIVE (030F034)
SP3	1-544-997-11	SPEAKER (057F022)

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ACCESSORIES
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⚠	1-473-588-11	ADAPTOR, AC (AC-S901) (FOR TMR-RF90)
	1-559-906-32	CORD, CONNECTION
⚠	1-693-029-11	ADAPTOR, A.C. (AC-S906T) (FOR SRS-RF90R)
	3-236-404-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2002.02	New